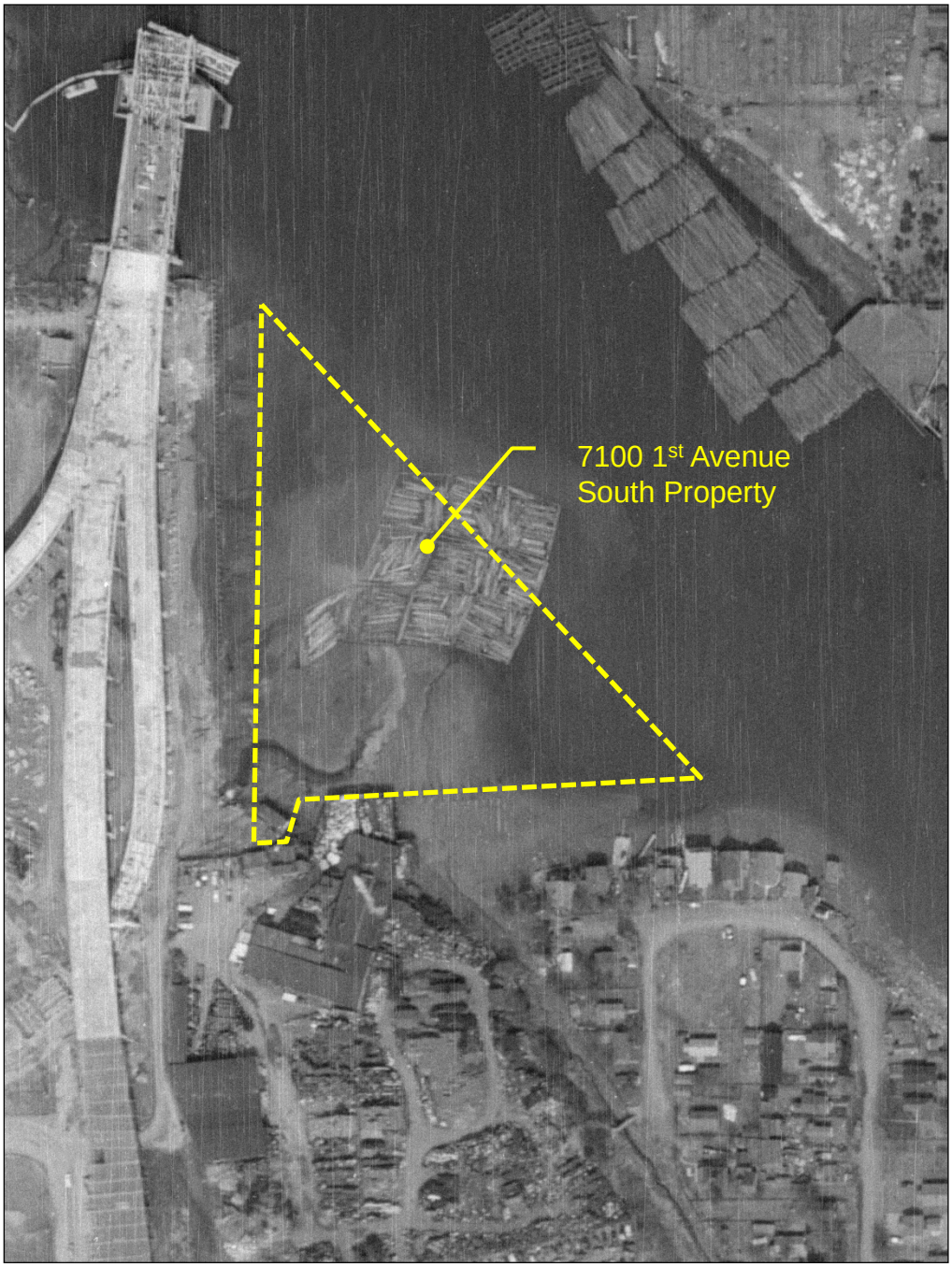
APPENDICES

GeoEngineers

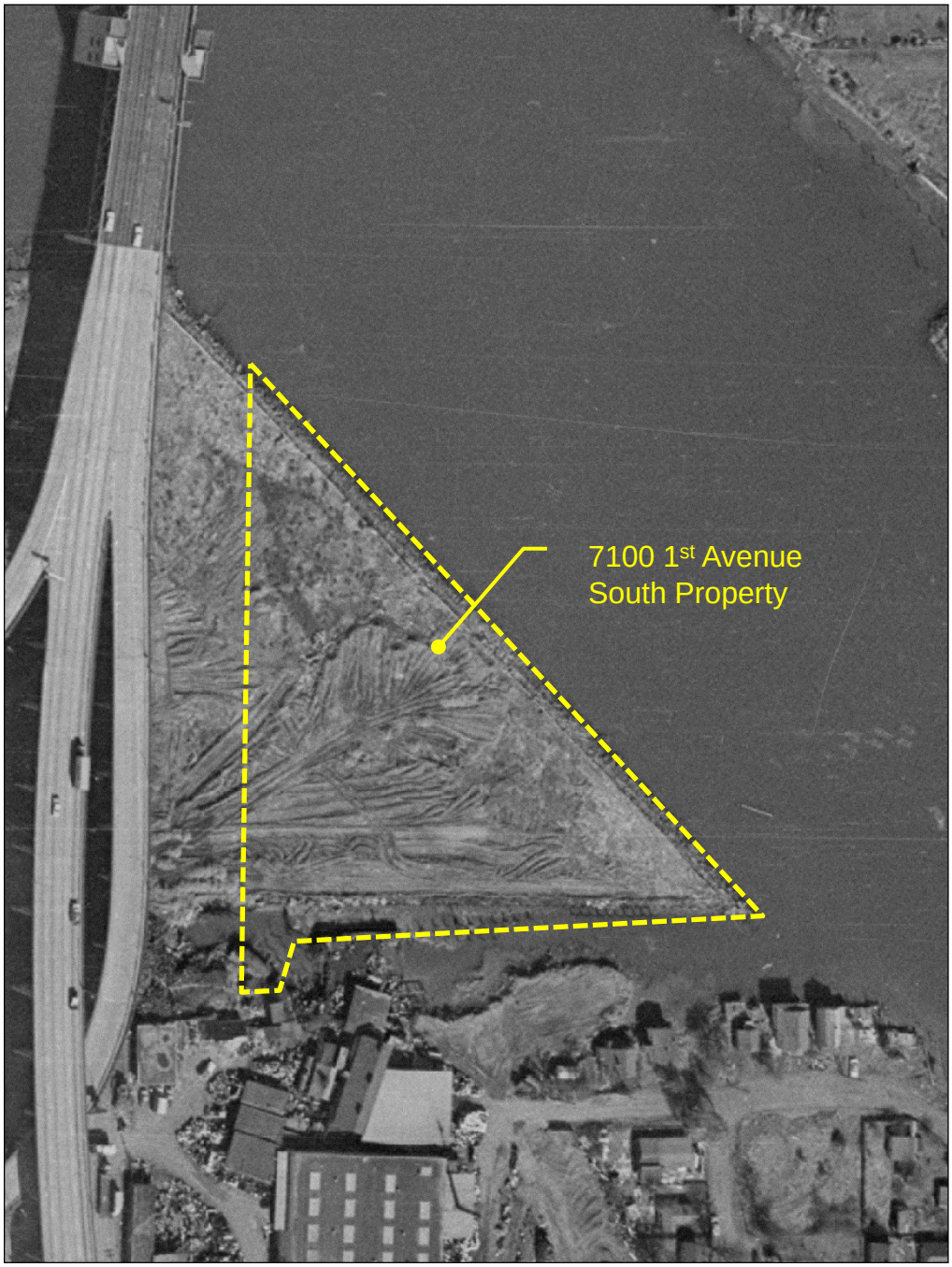
APPENDIX A
Historical Aerial Photographs



Photograph #1. Circa 1956 aerial photograph showing the 7100 LLC Site and surrounding area along the Lower Duwamish Waterway.

Historical Photographs	
7100 1st Avenue South Seattle, Washington	
GeoEngineers	Appendix A-1

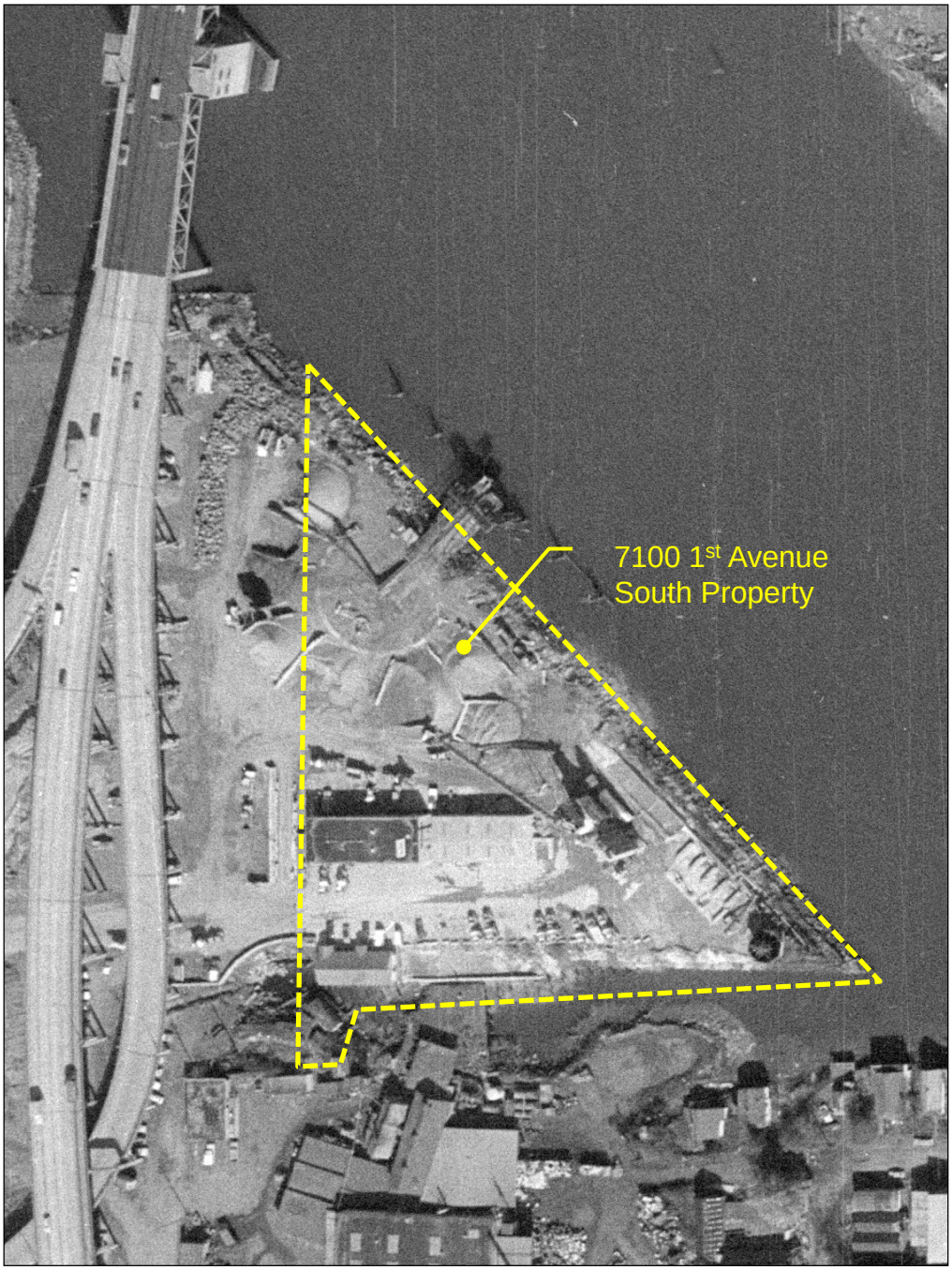
0275-015-02 Date Exported: 12/30/2016



Photograph #2. Circa 1969 aerial photograph showing the 7100 LLC Site and surrounding area along the Lower Duwamish Waterway.

Historical Photographs	
7100 1st Avenue South Seattle, Washington	
GeoEngineers	Appendix A-2

0275-015-02 Date Exported: 12/30/2016



Photograph #3. Circa 1974 aerial photograph showing the 7100 LLC Site and surrounding area along the Lower Duwamish Waterway.

Historical Photographs	
7100 1st Avenue South Seattle, Washington	
GeoEngineers	Appendix A-3

0275-015-02 Date Exported: 12/30/2016

Photograph #4. Circa 1984 aerial photograph showing the 7100 LLC Site and surrounding area along the Lower Duwamish Waterway.

Historical Photographs	
7100 1st Avenue South Seattle, Washington	
GeoEngineers	Appendix A-4

0275-015-02 Date Exported: 12/30/2016

Photograph #5. Circa 2000 aerial photograph showing the 7100 LLC Site and surrounding area along the Lower Duwamish Waterway.

Historical Photographs	
7100 1st Avenue South Seattle, Washington	
GeoEngineers	Appendix A-5

Photograph #6. Circa 2006 aerial photograph showing the 7100 LLC Site and surrounding area along the Lower Duwamish Waterway.

Historical Photographs	
7100 1st Avenue South Seattle, Washington	
GeoEngineers	Appendix A-6

APPENDIX B
Field Program

APPENDIX B
FIELD PROGRAM

General

Representatives from GeoEngineers, Inc. (GeoEngineers) staff and subcontractors conducted field work to obtain necessary data outlined in the Remedial Investigation (RI) to evaluate new and existing soil and groundwater data from the Site to delineate the nature and extent of contamination. New data was obtained to fill the currently identified data gaps and to complete the characterization of the Site for the purpose of developing and evaluating site-specific cleanup levels and cleanup action alternatives. The scope of work included a soil investigation, groundwater investigation and stormwater/catch basin solids investigation. These field activities are described below.

Soil Investigation

Soil explorations were completed to characterize lithology at the Property and to collect soil samples for chemical analyses. The soil investigation consisted of obtaining soil samples from three hand augur explorations (HA-1 through HA-3) along the northern Trotsky Inlet shoreline, seven hollow-stem auger (HSA) explorations (MW-2A and MW-13 through MW-18) within the northeastern portion of the Property, and eight direct-push (DP) explorations (DP-1 through DP-8) within the vicinity of the former gasoline and diesel underground storage tanks (USTs). Prior to the completion of any soil exploration, an underground utility locate (public and private) was conducted in the area of the proposed exploration locations to identify any subsurface utilities and/or potential underground physical hazards.

Soil conditions were evaluated during soil exploration activities using either hand equipment or truck mounted drill rig. The explorations were completed to depths ranging from approximately 2 feet to 41 feet below the existing ground surface (bgs). A GeoEngineers representative selected the exploration locations, examined and classified the soils encountered and prepared a detailed log of each exploration. Soils encountered were visually classified in general accordance with ASTM International (ASTM) D 2488-94 (described in Figure B-1). Exploration logs are presented in Figures B-2 through B-32.

Hand Auger Explorations

Hand auger (HA) explorations were completed by GeoEngineers field staff using a stainless steel HA to depths of 3 feet bgs. Soil samples were obtained directly from the sample barrel of the HA using a new pair of nitrile gloves for each sample interval. In addition, the sample barrel was decontaminated between each sample interval. Upon collection, a portion of the soil sample was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid. Observations of soil and groundwater conditions and soil field screening results for each exploration was recorded on a soil exploration log. Soil sample collection and handling, and field screening methods are discussed below.

Soil cuttings generated during each HA exploration was temporarily stockpiled adjacent to the exploration. Following the completion of each HA, stockpiled soil was returned and lightly compacted.

Hollow Stem Auger Explorations

HSA explorations were completed by Cascade Drilling, PL (Cascade) of Woodinville, Washington using a truck mounted CME-75 drill rig to depths ranging between 36 and 41 feet bgs. The HSA explorations were advanced for the collection of soil samples and installation of groundwater monitoring wells. Soil samples were obtained from the HSA explorations using a 2.5-inch diameter Dames & Moore (D&M) split-barrel sampler. The sampler was driven a maximum of 18 inches by a 300-pound weight falling a vertical distance of approximately 30 inches. The number of blows needed to advance the sampler the final 12 inches is indicated to the left of the corresponding sample notation on the exploration logs. Upon collection, a portion of the soil sample removed from the sampler was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid (with the exception of sample aliquots for volatile organic compounds [VOCs] analysis, which were collected using United States Environmental Protection Agency [EPA] Method 5035A). Observations of soil and groundwater conditions and soil field screening results for each exploration was recorded on a soil exploration log. Soil sample collection and handling, and field screening methods are discussed below.

Direct-Push Explorations

DP explorations were completed by Cascade using a truck mounted Geoprobe 6600 drill rig to depths ranging between 6 and 20 feet bgs. Continuous soil samples were obtained from the DP explorations using a 1.5-inch diameter sample barrel with an acetate liner. The sampler was driven a maximum of 60 inches using a pneumatic hammer. Upon collection, a portion of the soil sample removed from the sampler was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid (with the exception of sample aliquots for volatile analysis, which were collected using EPA Method 5035A). Observations of soil and groundwater conditions and soil field screening results for each exploration was recorded on a soil exploration log. Soil sample collection and handling, and field screening methods are discussed below.

Soil Collection and Handling

Soil samples obtained from the explorations for chemical analysis were transferred to laboratory-prepared sample jars. Sample containers were filled to minimize headspace. The samples were placed in a cooler with ice pending transport to the analytical laboratory. Chain-of-custody procedures were followed in transporting the samples to the testing laboratory. Soil samples obtained by GeoEngineers were submitted to a Washington State Department of Ecology (Ecology)-certified laboratory, Analytical Resources Inc. (ARI) of Tukwila, Washington for chemical analysis. Samples that were submitted for chemical analysis are denoted in the exploration logs with "CA." Chemical analytical results for these samples are summarized in the RI.

Groundwater Investigation

Four quarters of groundwater sampling was performed to collect samples representative of groundwater conditions at the Property. Water samples were collected from existing monitoring wells MW-1 and MW-3 through MW-5, MW-8 through MW-13, newly installed monitoring wells MW-2R and MW-14 through MW-19 for chemical analysis. In addition, seep samples were collected from locations SEEP-1 and SP-1 located within the Trotsky Inlet. Procedures for monitoring well installation, well development, water level measurement and groundwater sample collection are described below.

Monitoring Well Construction

Drilling and construction of monitoring wells MW-2R and MW-14 through MW-19 was conducted by a Washington State licensed driller in accordance with the Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 Washington Administrative Code [WAC]; Ecology 2006). Installation of the monitoring wells was observed by a GeoEngineers representative, who maintained a detailed log of the materials and depths of the wells (see Figures B-13 through B-28).

Wells were constructed with 2-inch-diameter, flush-threaded Schedule 40 polyvinyl chloride (PVC) casing with machine-slotted PVC screen (0.010-inch). The top of the well screens in monitoring wells MW-11 through MW-20 were located approximately 5 feet above the observed groundwater level, or within 2 feet of the ground surface, whichever was deeper. The location of these wells and the potential for influence on groundwater levels in relationship with changes in water levels in the Lower Duwamish Waterway (LDW) were considered when placing the well screen. In each of the monitoring wells, the top of the well screen was positioned at a depth of approximately 7 feet bgs. Screened intervals within each of the monitoring wells were approximately 10 feet in length.

Following placement of the well screen and casing in the borehole, a filter pack was installed around the well screen. The filter pack extended from the bottom of the well to a minimum of 1 foot above the top of the screen. The filter pack material consisted of commercially prepared 2-12 silica sand.

A bentonite seal at least 1 foot thick was placed above the sand pack to about 1.5 feet bgs. The surface of each well was then completed with a concrete seal and surface pad extending from the top of the bentonite seal to slightly above the ground surface. Locking steel flush-mount monuments were cemented in place from the surface to a depth of about 1.5 feet bgs.

A summary of monitoring well construction details is provided in Tables B-1 and B-2, and on exploration logs presented in Figures B-13 through B-28.

Monitoring Well Development

Newly installed monitoring wells at the Property were developed to remove water introduced into the well during drilling, stabilize the filter pack and formation materials surrounding the well screen, and restore the hydraulic connection between the well screen and the surrounding soil. Well development was completed between July 31 and August 1, 2013, in advance of sampling activities.

The well screen was gently surged with a decontaminated stainless steel bailer several times after installation. Development continued until a minimum of five casing volumes of water had been removed and turbidity of the discharged water is relatively low. The goal of well development was to reduce the turbidity content of the water to approximately 25 nephelometric turbidity units (NTUs). Up to 10 well volumes of water was removed from the wells in an effort to attain the 25 NTU goal.

Water that was removed from the well during well development activities was stored at the Property in labeled and sealed 55-gallon drums, pending permitted disposal.

Survey

David Evans and Associates, Inc. (DEA) surveyed the location, casing rim elevation and ground surface elevation for existing monitoring wells MW-1 and MW-3 through MW-5, MW-8 through MW-13, newly installed monitoring wells MW-2R and MW-14 through MW-19 in advance of sampling activities. As-built conditions of the Property including the surveyed well locations elevations are presented in Appendix G of the RI.

The survey was completed during the months of July and August 2013 using a Leica 1201 Total Station and Leica 1230GG GPS Receivers. Horizontal and vertical controls for the survey were referenced from the following Benchmarks:

- Benchmark DEA #3006 – Mag nail with "DEA Control" washing on the north east corner of the dock.
  - Northing: 200863.88 feet
  - Easting: 1269885.24 feet
  - Elevation: 15.96 feet
  - Horizontal Datum: Washington State Plane Coordinate System, North Zone, North American Datum 1983/2007 (NAD-83/07)
  - Vertical Datum: North American Vertical Datum 1988 (NAVD-88)
- Benchmark DEA #3007 – Mag nail with "DEA Control" washing on the north east corner of the dock.
  - Northing: 200801.23 feet
  - Easting: 1269945.96 feet
  - Elevation: 15.96 feet
  - Horizontal Datum: NAD-83/07
  - Vertical Datum: NAVD-88

Ground surface elevations, top of casing elevations and monitoring well coordinate are provided in Tables B-1 and B-2.

Water Level Measurement

Water level measurements were obtained each monitoring well prior to purging and sample collection. All water levels were measured using an electronic water level indicator to the nearest 0.01 foot. Measurements were taken from the top north portion of the well casing.

Depth to water measurements obtain prior to sample collection for each quarterly groundwater monitoring event are provided in Table 4 of the RI.

Groundwater Sampling

Groundwater samples were obtained using low-flow/low-turbidity sampling techniques to minimize the suspension of sediment in the samples. Groundwater samples were obtained from monitoring wells using a peristaltic pump and disposable polyethylene tubing at a rate of approximately 0.5 liter per minute or less within the central portion of the screened interval when saturated and approximately ½ the saturated screen length when the water level was below the top of the well screen. A Horiba U-50 series was used to monitor water quality parameters during purging: electrical conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature. Water samples were obtained once these parameters vary by less than 10 percent on three consecutive measurements. If water quality parameters did not stabilize, samples were collected after purging approximately three well-volumes.

Following well purging, the flow-through cell was disconnected and the groundwater sample collected in laboratory-prepared containers. Samples collected for VOCs were obtained using EPA's "soda straw" method which involves allowing the flexible tubing to fill by either lowering it into the water column (A) or by

filling it with suction applied to the pump head (B). For Method A, the tubing was removed from the well after filling and the sample is allowed to drain into the sample vial. For Method B, after running the pump and filling the tubing with sample, the pump speed was reduced and the flow direction is reversed to push the sample out of the tubing into the sample vials. Following collection, the samples were placed into a cooler with ice pending transport to the analytical laboratory. Chain-of-custody procedures were followed in transporting the samples to the testing laboratory. Soil samples obtained by GeoEngineers were submitted to an Ecology-certified laboratory, ARI of Tukwila, Washington for chemical analysis.

Purge water removed from the monitoring wells and decontamination water generated during all sampling activities was stored at the Property in labeled and sealed 55-gallon drums pending permitted disposal.

Seep Sampling

Seep samples were obtained using low-flow/low-turbidity sampling techniques to minimize the suspension of sediment in the samples. Seep samples were obtained from previously identified seep locations within the Trotsky Inlet using a peristaltic pump and disposable polyethylene tubing at a rate of approximately 0.5 liter per minute or less. A Horiba U-50 series was used to document water quality parameters during purging: electrical conductivity, dissolved oxygen, pH, salinity, total dissolved solids, turbidity, oxidation-reduction potential and temperature at the seep location prior to sample collection.

Seep samples were placed in laboratory-prepared containers. Samples collected for VOCs were obtained using EPA's "soda straw" method which involves allowing the flexible tubing to fill by either lowering it into the water column (A) or by filling it with suction applied to the pump head (B). For Method A, the tubing was removed from the well after filling and the sample is allowed to drain into the sample vial. For Method B, after running the pump and filling the tubing with sample, the pump speed was reduced and the flow direction is reversed to push the sample out of the tubing into the sample vials. Following collection, the samples were placed into a cooler with ice pending transport to the analytical laboratory. Chain-of-custody procedures were followed in transporting the samples to the testing laboratory. Soil samples obtained by GeoEngineers were submitted to an Ecology-certified laboratory, ARI of Tukwila, Washington for chemical analysis.

Water quality measurements obtain at the time of sample collection for each quarterly groundwater monitoring event are provided in Table 5 of the RI. Chemical analytical results for these samples are summarized in the RI.

72-hour Tidal Study

Water levels in monitoring wells were recorded using a combination of pressure transducers with internal data loggers and an electronic water level indicator. Continuous transducer-based water level measurements were recorded in monitoring wells MW-4, MW-5, MW-9, MW-11, MW-12, and MW-13 and in the LDW. A detailed discussion of the procedures and methods for performing the tidal study is presented in Appendix F.

Hydraulic Conductivity Testing

The hydraulic conductivity unconfined and confined aquifer units were estimated using slug tests following the completion of the 72-hour tidal study in monitoring wells MW-4, MW-2R and MW-14. The slug tests were performed in the selected monitoring wells to identify the range of hydraulic conductivities present.

The slug tests were performed using a PVC slug rod, a down-hole pressure transducer as described above, and a water level indicator in general accordance with ASTM D 4044-99. The general procedure for conducting the slug tests included:

- Measuring the static depth of groundwater prior to placing the pressure transducer near the bottom of the well.
- After confirmation of the stabilized water level (from the displacement of the transducer), the slug rod was quickly lowered into the well until it was submerged in the water column.
- The recovery of the perturbed water level was monitored until it has returned to within 95 percent of the initial head indicated by the transducer prior to the introduction of the slug rod.
- After the water level re-equilibrated, the slug rod was quickly removed from the water column and the groundwater level monitored for recovery.
- Following recovery of the water level to within tolerance of 95 percent, a manual measurement of the depth to groundwater was recorded, the transducer removed and the well secured.

A detailed discussion of the procedures and methods for performing the slug test is presented in Appendix D.

Stormwater Investigation

Stormwater Sample Collection and Handling

Stormwater samples were collected from influent and effluent pipes connected to a stormwater treatment system. The treatment system was positioned to filter stormwater collected from the Property prior to discharge to the LDW. Grab samples were obtained from sampling ports located on the influent and effluent stormwater pipes entering and exiting the treatment system. Water samples obtained for chemical analysis were transferred to laboratory-prepared sample jars. Sample containers were filled to minimize headspace. The samples were placed in a cooler with ice pending transport to the analytical laboratory. Chain-of-custody procedures were followed in transporting the samples to the testing laboratory. Water samples obtained by GeoEngineers were submitted to an Ecology-certified laboratory, ARI of Tukwila, Washington for chemical analysis. Chemical analytical results for these samples are summarized in the RI.

Stormwater Outfall Sediment Sample Collection and Handling

Sediment samples were collected from the vicinity of the stormwater discharge outfall to evaluate the potential for stormwater contaminants to impact surrounding LDW sediment. Surface sediment (i.e., 0 to 10 centimeters [cm] depth) and shallow subsurface sediment (i.e., 10 cm to 60 cm) samples were collected using a HA. Sediment conditions and soil field screening results for each exploration was recorded on an exploration log (see Figure B-32).

Sediment samples were obtained directly from the sample barrel of the HA using a new pair of nitrile gloves for each sample interval. In addition, the sample barrel was decontaminated between each sample interval. Upon collection, a portion of the sediment sample was placed in a plastic bag for field screening while the remaining portion of the sample was placed into laboratory-supplied containers, lightly packed, and capped with a plastic lid. Sample containers were filled to minimize headspace. The samples were placed in a cooler with ice pending transport to the analytical laboratory. Chain-of-custody procedures were

followed in transporting the samples to the testing laboratory. Water samples obtained by GeoEngineers were submitted to an Ecology-certified laboratory, ARI of Tukwila, Washington for chemical analysis. Chemical analytical results for these samples are summarized in the RI.

Cuttings generated during each HA exploration was temporarily stockpiled adjacent to the exploration. Following the completion of each HA, stockpiled soil was returned and lightly compacted.

Decontamination Procedures

Soil and/or sediment samples were collected using coring/drilling equipment (i.e., HSA and/or DP) and/or hand tools including stainless steel spoons and stainless steel mixing bowls. Groundwater samples were collected from monitoring wells using submersible or peristaltic pumps and low-flow sampling procedures. Stormwater samples were obtained directly from the treatment system piping.

Reusable sampling equipment that came into contact with soil, stormwater catch basin solids or groundwater was decontaminated before each use. Decontamination procedures for this equipment consist of the following:

1. Washing with a brush and non-phosphate detergent solution (e.g., Liqui-Nox® and distilled water);
2. Rinsing with distilled water; and
3. Wrapping or covering the decontaminated equipment with aluminum foil when not in use. Field personnel to the extent practical limited cross-contamination by changing gloves between sampling locations.

Drilling equipment (auger, soil sampler, direct push barrel) which came into contact with soil was decontaminated before each use. Decontamination procedures for this equipment consisted of the following:

1. Washing with pressurized hot-water;
2. Wash with brush and non-phosphate detergent solution; and
3. Rinse with potable water.

Wash water used to decontaminate the reusable sampling equipment was collected and stored at the Property in 55-gallon drums.

Investigation Derived Waste

Soil cuttings (unused soil core) from explorations completed during the RI and wash water used to decontaminate the reusable sampling equipment was placed in separate labeled and sealed 55-gallon drums. The drums were stored temporarily at a secure location at the Property pending receipt of analytical results and offsite disposal at a permitted facility.

Incidental waste generated during sampling activities included items such as gloves, plastic sheeting, sample tubing, paper towels and similar expended and discarded field supplies. These materials were considered *de minimis* and were transferred from the Property for landfill disposal via dumpster or trash receptacle at GeoEngineers' Seattle or Redmond offices.

Field Screening

Samples obtained from the Property were evaluated for the potential presence of petroleum contamination using field screening techniques. Field screening results were used as a general guideline to delineate areas of potential petroleum-related contamination. In addition, screening results was often used as a basis for selecting soil samples for chemical analysis. The screening methods employed for the soil and catch basin solids investigations included visual screening, water sheen screening and headspace vapor screening. The screening methods employed for the groundwater investigation included water sheen screening. Field screening methods are described below.

Visual Screening

Visual screening consisted of observing the soil for stains indicative of petroleum-related contamination. Visual screening is generally more effective when contamination is related to heavy petroleum hydrocarbons such as motor oil, or when hydrocarbon concentrations are high. Sheen screening is a more sensitive screening method that can be effective in detecting petroleum-based products in concentrations lower than regulatory cleanup guidelines.

Water Sheen Screening

Water sheen screening involved placing a portion of the soil sample in a pan containing distilled water, and observing the water surface for signs of sheen or observing purge water generated during groundwater sampling activities for signs of sheen. This is a relatively sensitive, qualitative field screening method that can help identify the presence or absence of petroleum hydrocarbons and other contaminants, sometimes at concentrations lower than regulatory cleanup guidelines. The following sheen classifications were used:

Classification	Identifier	Description
No Sheen	(NS)	No visible sheen on the water surface.
Slight Sheen	(SS)	Light, colorless, dull sheen; spotty to globular; spread is irregular, not rapid; sheen dissipates rapidly; areas of no sheen remain.
Moderate Sheen	(MS)	Light to heavy sheen; may have some color/iridescence; globular to stringy; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on the water surface.
Heavy Sheen	(HS)	Heavy sheen with color/iridescence; stringy; spread is rapid; entire water surface may be covered with sheen; sheen flows off the sample.

Headspace Vapor Screening

This is a semi-quantitative field screening method that can help identify the presence or absence of VOCs in samples. During the soil and catch basin solids investigations, a portion of the collected sample was placed in a resealable plastic bag. The bag was then sealed capturing air in the bag, gently shaken to expose the sample to the air trapped in the bag and then allowed to stand at ambient temperature before measuring the headspace vapors. Vapors present within the sample bag's headspace was measured by inserting the probe of a photoionization detector (PID) through a small opening in the bag, taking care not to clog the probe with the sample. The maximum PID reading (in parts per million [ppm]) was then recorded on the field log for each sample. Prior to use, the PID was calibrated to 100 ppm isobutylene in accordance with the manufacturer's recommendations.

The PID is designed to quantify photoionizable gases and vapors up to 2,000 ppm. A lower threshold of significance of 1 ppm is used in this PID application. No soil sample used for headspace screening was submitted to the laboratory for chemical analysis.

Table B-1

Summary of Remedial Investigation Groundwater Monitoring Well Completion Data

7100 1st Avenue South Site

Seattle, Washington

Monitoring Well[1]	Date Installed	Installed By	Ecology Well ID	Ground Elevation[2] (ft)	Top of Casing Elevation[3] (ft)	Bottom of Casing Elevation (ft)	Total Well Depth (ft bgs)	Casing Diameter (inches)	Screen Interval (ft bgs)	Screen Specifications
MW-1	10/25/1990	Dames & Moore	TBD	18.04	17.39	-1.96	20	4	10 to 20	4-inch Schedule 40 PVC 0.010-inch slot
MW-3	10/25/1990	Dames & Moore	TBD	18.14	17.29	-1.86	20	4	10 to 20	4-inch Schedule 40 PVC 0.010-inch slot
MW-4	10/26/1990	Dames & Moore	TBD	17.66	16.51	-2.34	20	4	10 to 20	4-inch Schedule 40 PVC 0.010-inch slot
MW-5	1/22/1991	Dames & Moore	TBD	15.92	15.02	-3.58	19.5	2	10 to 19.5	4-inch Schedule 40 PVC 0.010-inch slot
MW-8	6/18/2008	SAIC	TBD	17.33	16.93	-2.67	20	2	10 to 20	2-inch Schedule 40 PVC 0.010-inch slot
MW-9	6/18/2008	SAIC	TBD	16.72	16.32	-3.28	20	2	10 to 20	2-inch Schedule 40 PVC 0.010-inch slot
MW-10	6/18/2008	SAIC	TBD	17.03	16.73	-2.97	20	2	10 to 20	2-inch Schedule 40 PVC 0.010-inch slot
MW-11	6/18/2008	SAIC	TBD	17.89	17.59	-2.11	20	2	10 to 20	2-inch Schedule 40 PVC 0.010-inch slot
MW-12	6/19/2008	SAIC	TBD	18.30	17.88	-1.7	20	2	10 to 20	2-inch Schedule 40 PVC 0.010-inch slot
MW-2R	7/11/2013	GeoEngineers	BIC 627	17.19	17.37	-4.81	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot
MW-13	7/12/2013	GeoEngineers	BIC 628	18.00	17.60	-4	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot
MW-14	7/9/2013	GeoEngineers	BIC 623	16.56	16.16	-5.44	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot
MW-15	7/9/2013	GeoEngineers	BIC 622	15.94	15.49	-6.06	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot
MW-16	7/10/2013	GeoEngineers	BIC 625	18.24	17.59	-3.76	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot

Monitoring Well[1]	Date Installed	Installed By	Ecology Well ID	Ground Elevation[2] (ft)	Top of Casing Elevation[3] (ft)	Bottom of Casing Elevation (ft)	Total Well Depth (ft bgs)	Casing Diameter (inches)	Screen Interval (ft bgs)	Screen Specifications
MW-17	7/12/2013	GeoEngineers	BIC 638	17.01	16.51	-4.99	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot
MW-18	7/11/2013	GeoEngineers	BIC 626	17.90	17.60	-4.1	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot
MW-19	7/10/2013	GeoEngineers	BIC 624	17.49	16.99	-4.51	22	2	7 to 22	2-inch Schedule 40 PVC 0.010-inch slot

Notes:

[1]Monitoring well locations are shown on Figure 8.

[2]Elevation from July/August 2013 land survey performed by Dowl HKM.

[3]Elevation from the difference in height between the well monument rim and north top of casing.

Monitoring wells were installed using hollow-stem auger (HAS) drilling methods.

All elevations referenced to North American Vertical Datum 1988 (NAVD88).

PVC = polyvinyl chloride

Table B-2

Summary of Remedial Investigation Groundwater Monitoring Well Coordinates

7100 1st Avenue South Site

Seattle, Washington

Monitoring Well[1]	Date Installed	Installed By	Ecology Well ID	Latitude and Longitude Coodinates[2]		Washington State Planes North Coordinates[2] (NAD83)	
				Latitude (DMS)	Longitude (DMS)	Northing (feet)	Easting (feet)
MW-1	10/25/1990	Dames & Moore	TBD	47° 32' 22.6522"	-122° 20' 00.9785"	200451.330	1269870.200
MW-2R	7/11/2013	GeoEngineers	BIC 627	47° 32' 22.8875"	-122° 19' 59.4809"	200473.260	1269973.330
MW-3	10/25/1990	Dames & Moore	TBD	47° 32' 22.9611"	-122° 20' 00.0868"	200481.440	1269931.980
MW-4	10/26/1990	Dames & Moore	TBD	47° 32' 23.5311"	-122° 20' 00.0505"	200539.130	1269935.600
MW-5	1/22/1991	Dames & Moore	TBD	47° 32' 24.2314"	-122° 19' 59.4145"	200609.220	1269980.610
MW-8	6/18/2008	SAIC	TBD	47° 32' 22.1754"	-122° 19' 58.1973"	200399.310	1270060.050
MW-9	6/18/2008	SAIC	TBD	47° 32' 22.0059"	-122° 19' 59.3738"	200383.720	1269979.010
MW-10	6/18/2008	SAIC	TBD	47° 32' 22.0184"	-122° 20' 00.3079"	200386.230	1269914.950
MW-11	6/18/2008	SAIC	TBD	47° 32' 22.2085"	-122° 20' 01.4916"	200407.070	1269834.130
MW-12	6/19/2008	SAIC	TBD	47° 32' 22.7950"	-122° 20' 00.4340"	200465.070	1269907.840
MW-13	7/12/2013	GeoEngineers	BIC 628	47° 32' 22.6075"	-122° 19' 56.6311"	200441.160	1270168.340
MW-14	7/9/2013	GeoEngineers	BIC 623	47° 32' 23.8590"	-122° 19' 58.2887"	200570.540	1270057.000
MW-15	7/9/2013	GeoEngineers	BIC 622	47° 32' 24.6595"	-122° 19' 59.3644"	200652.570	1269984.930
MW-16	7/10/2013	GeoEngineers	BIC 625	47° 32' 23.2855"	-122° 20' 00.3876"	200514.570	1269911.750
MW-17	7/12/2013	GeoEngineers	BIC 629	47° 32' 24.2362"	-122° 20' 00.6333"	200611.470	1269896.950
MW-18	7/11/2013	GeoEngineers	BIC 638	47° 32' 22.8375"	-122° 19' 58.3945"	200466.660	1270047.890
MW-19	7/10/2013	GeoEngineers	BIC 624	47° 32' 23.2887"	-122° 19' 59.4553"	200513.640	1269975.890

Notes:

[1]Monitoring well locations are shown on Figure 8.

[2]Coordinates from June 2014 land survey performed by Dowl HKM.

NAD83 = North American Datum 1983

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
PPM	Parts per million
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE B-1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
18.42 NAVD-88	Pneumatic	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
1269851.83 200516.34	NAD-83			

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								CC	Approximately 8 inches reinforced concrete			
									SM	Brown silty fine to medium sand with trace gravel (moist) (fill)			
15						1					NS	<1	Slight staining from 2.5 to 5 feet
	5		30			2			SM	Brown to gray silty fine to coarse sand with gravel (moist)	NS	<1	
									SM	Gray silty fine sand (moist)			
10						3					NS	<1	
									SP-SM	Dark brown to black poorly graded sand with silt (moist)			
	10		55			4 CA			SM	Brown silty fine to coarse sand with gravel (moist)	NS	<1	
5									SM	Gray silty fine to medium sand (moist)			
						5 CA					NS	<1	
									SM	Dark brown silty fine sand (wet)			
	15		60			6			SM	Dark brown silty fine to medium sand (wet)	NS	<1	
0						7					NS	<1	
									SM	Dark brown silty fine sand (wet)			
						8					NS	<1	
	20												

Note: See Figure B-1 for explanation of symbols.

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015002.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Log of Boring DP-1

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-2
Sheet 1 of 1

Drilled: Start 7/8/2013 End 7/8/2013	Total Depth (ft): 20	Logged By: TML Checked By: RST	Driller: Cascade Drilling, LP	Drilling Method: Direct-Push	
Surface Elevation (ft): 18.12 Vertical Datum: NAVD-88		Hammer Data: Pneumatic		Drilling Equipment: Geoprobe	
Easting (X): 1269905.96 Northing (Y): 200532		System Datum: NAD-83		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:					

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
15	0		60						AC	Approximately 4 inches asphalt concrete			
									CDF	CDF wtih asphalt and gravel			
									SM	Brown to gray silty fine to coarse sand (moist) (fill)			
						1					NS	<1	
									SM	Dark brown silty fine sand with occasional gravel (moist)			
10	5		54			2			SM	Gray to brown silty fine to coarse sand with gravel (moist)	NS	<1	
						3 CA					SS	<1	Slight petroleum odor
									SM	Dark brown silty fine sand (moist)			
5	10		52			4			SM	Dark brown silty fine to medium sand (moist)	NS	<1	Wood debris at 10 feet
						5 CA					NS	<1	
									SM	Dark brown silty fine sand (wet)			
0	15		52			6			SM	Dark brown silty fine to medium sand (wet)	NS	<1	
						7					NS	<1	
									SM	Dark brown silty fine sand (wet)			
-5	20					8					NS	<1	

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-2

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-3
Sheet 1 of 1

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015002.GPJ DBTemplate\LibTemplate\GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_STANDARD

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML / RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
18.34 NAVD-88	Pneumatic	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)
1269847.89 / 200488.85	NAD-83			

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		45						CC	Approximately 8 inches reinforced concrete			
									SM	Brown silty fine to medium sand with trace gravel (moist) (fill)			
15						1					NS	<1	
	5		55			2			SM	Brown silty fine to coarse sand with trace gravel and glass bits (moist)	NS	<1	
						3			SM	Gray silty fine sand (moist)	NS	<1	
10									SM	Gray to black poorly graded sand with silt (moist)			
	10		54			4			SM	Brown silty fine sand (moist)	NS	<1	
5						5 CA			SM	Dark brown to black silty fine sand (wet)	NS	<1	Wood debris at 14 feet
	15		50			6			SM	Dark brown to black silty fine sand (wet)	NS	<1	
						7					NS	<1	
0									SM	Black silty fine sand (wet) (native?)			
						8					NS	<1	
	20												

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-3

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-4
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML / RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) / Vertical Datum	18.38 NAVD-88	Hammer Data	Pneumatic
Drilling Equipment	Geoprobe		
Easting (X) / Northing (Y)	1269905.45 / 200474.64	System Datum	NAD-83
Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)	

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								AC	Approximately 4 inches asphalt concrete			
									SM	Gray silty fine to coarse sand with gravel (fill)			
									CC	Approximately 2 inches concrete			
									SM	Dark brown to black silty fine sand (moist) (fill)			
15			48			1					NS	<1	
	5		55			2			SM	Dark brown to black silty fine sand (moist)	NS	<1	
									SM	Gray silty fine sand (moist)			
10						3 CA					NS	<1	
									SP-SM	Black poorly graded sand with silt (moist)			
	10		60			4			SP-SM	Gray to black poorly graded sand with silt and gravel (moist)	NS	<1	
5						5 CA			SM	Gray to black silty fine to medium sand (moist)	NS	<1	
									SM	Gray to black silty fine sand (moist)			
	15		30			6			SM	Black silty fine sand (wet) (native?)	NS	<1	
0						7					NS	<1	
						8					NS	<1	
	20												

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-4

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-5
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML	RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
18.1 NAVD-88	Pneumatic	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)
1269887.75 / 200457.68	NAD-83			

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
15	0		30						AC	Approximately 6 inches asphalt			
									CC	Approximately 12 inches concrete			
						1			SM	Dark brown silty fine to coarse sand with occasional gravel (moist) (fill)	NS	<1	
10	5		50			2			SM	Dark brown silty fine to coarse sand (moist)	NS	<1	
						3 CA					SS	<1	
5	10		60			4			SM	Dark brown to gray silty fine to coarse sand (moist)	NS	<1	
						5			SM	Dark brown to gray silty fine to coarse sand (wet)	NS	<1	
0	15		60			6			SM	Dark brown to gray silty fine to coarse sand (wet) (native?)	NS	<1	
						7					NS	<1	
-5	20					8			SM	Dark brown to gray silty fine sand (wet)	NS	<1	

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-5

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-6
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML	RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
17.9 NAVD-88	Pneumatic	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)
1269927.49 / 200464.01	NAD-83			

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								CC	Approximately 8 inches asphalt			
									SM	Light gray silty fine to coarse sand with gravel (moist) (fill)			
-5						1			SM	Gray silty fine to coarse sand with gravel (moist)	NS	<1	
	5		40						SM	Dark brown silty fine sand with trace gravel (moist)			
			47			2 CA			SM	Dark brown silty fine sand with trace gravel (moist)	SS	<1	
-10						3 CA					NS	<1	
	10		55			4			SM	Dark brown silty fine to coarse sand (moist)	NS	<1	
-5						5 CA			SM	Dark brown to black silty fine sand (wet)	NS	<1	
	15		60			6			SM	Dark brown to black silty fine to medium sand (wet) (native?)	NS	<1	
-5						7					NS	<1	
	20					8					NS	<1	

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-6

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-7
Sheet 1 of 1

Drilled	Start 7/8/2013	End 7/8/2013	Total Depth (ft)	20	Logged By / Checked By	TML / RST	Driller	Cascade Drilling, LP	Drilling Method	Direct-Push
Surface Elevation (ft) / Vertical Datum	17.88 NAVD-88		Hammer Data	Pneumatic	Drilling Equipment	Geoprobe				
Easting (X) / Northing (Y)	1269874.99 200421.58		System Datum	NAD-83	Groundwater	Date Measured	Depth to Water (ft)	Elevation (ft)		
Notes:										

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		8						AC	Approximately 6 inches asphalt			
									CC	Approximately 12 inches concrete			
										No recovery			
									SM	Brown silty fine to coarse sand with gravel (moist) (fill)			
	5		50			1			SM	Brown to gray silty fine sand with gravel (moist)	NS	<1	
						2					NS	<1	
									SP-SM	Brown to gray poorly graded sand with silt (moist)			
	10		50			3			SP-SM	Dark brown poorly graded sand with silt (moist)	NS	<1	
						4 CA					NS	<1	
									SM	Dark brown to black silty fine to medium sand (wet)			
	15		60			5			SM	Dark brown to black silty fine sand (wet) (native?)	NS	<1	
						6					NS	<1	
						7					NS	<1	
	20												Occasional wood debris at 19.5 feet

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-7

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Drilled	Start	End	Total Depth (ft)	Logged By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
17.63 NAVD-88	Pneumatic	Geoprobe

Easting (X) Northing (Y)	System Datum	Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
1264903.23 200419.79	NAD-83			

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0		40						AC	Approximately 6 inches asphalt			
									CC	Approximately 12 inches concrete			
5						1			SM	Brown to gray silty fine to coarse sand with gravel (moist) (fill)	NS	<1	
	5		55			2			SM	Gray silty fine sand (moist)	NS	<1	
0						3					NS	<1	
									SP-SM	Gray to black poorly graded sand with silt (moist)			
	10		45			4			SM	Gray to black silty fine to medium sand with silt (moist)	NS	<1	
-5						5 CA					NS	<1	
									SM	Gray to black silty fine to medium sand with silt (wet)			
	15		55			6			SM	Dark brown to black silty fine to coarse sand with trace gravel (wet) (Native?)	NS	<1	
-10						7					NS	<1	
						8					NS	<1	Wood debris at approximately 19 feet
	20												

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-8

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-9
Sheet 1 of 1

Drilled	Start 7/8/2013	End 7/8/2013	Total Depth (ft) 6	Logged By TML / Checked By RST	Driller Cascade Drilling, LP	Drilling Method Direct-Push
Surface Elevation (ft) 17.86 / Vertical Datum NAVD-88			Hammer Data Pneumatic		Drilling Equipment Geoprobe	
Easting (X) 1269897.8 / Northing (Y) 200572.06			System Datum NAD-83		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)	
Notes:						

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
15	0		60			1			AC	Approximately 6 inches asphalt			
									CC	Concrete debris			
									SM	Gray to brown silty fine to coarse sand with gravel (moist) (fill)	NS	<1	
	5		12						CC	Concrete debris	NS	<1	
										Refusal at 6 feet			

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-9

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-10
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML	RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
17.36 NAVD-88	Pneumatic	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)
1269961.75 / 200527.99	NAD-83			

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
	0								AC	Approximately 4 inches asphalt			
									CC	Concrete debris			
									SM	Brown to gray silty fine to coarse sand with gravel (moist) (fill)			
			60			1					NS	<1	
	5		50			2 / CA			SM	Brown silty fine to coarse sand with gravel (moist)	SS	<1	Slight petroleum odor
						3					SS	<1	
	10		55			4 / CA			SP-SM	Dark brown to black poorly graded sand with silt (moist)	SS	<1	
						5 / CA			SM	Dark brown to gray silty fine to medium sand (wet)	HS	261	
	15		50			6 / CA			SM	Dark brown to black silty fine to medium sand (wet)	NS	<1	
						7					NS	<1	
									SM	Dark brown to black silty fine sand (wet) (native?)			
						8					NS	<1	
	20												

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-10

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-11
Sheet 1 of 1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/8/2013	7/8/2013	20	TML	RST	Cascade Drilling, LP	Direct-Push

Surface Elevation (ft) / Vertical Datum	Hammer Data	Drilling Equipment
17.17 NAVD-88	Pneumatic	Geoprobe

Easting (X) / Northing (Y)	System Datum	Groundwater: Date Measured	Depth to Water (ft)	Elevation (ft)
1239941.82 / 200564.88	NAD-83			

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	REMARKS
15	0		60						AC	Approximately 4 inches asphalt			
									CC	Concrete debris			
						1			SM	Brown to gray silty fine to coarse sand with gravel (moist) (fill)	NS	<1	
	5		45			2			SM	Brown to gray silty fine to coarse sand with gravel (moist)	NS	<1	
10						3					NS	<1	
	10		60			4			SP-SM	Dark brown to black poorly graded sand with silt (moist)	NS	<1	
5						5 CA			SM	Dark brown to gray silty fine to medium sand (wet)	NS	<1	
	15		60			6			SM	Dark brown to black silty fine to medium sand (wet)	NS	<1	
0						7					NS	<1	
									SM	Dark brown to black silty fine sand (wet) (native?)			
						8					NS	<1	
	20												

Note: See Figure B-1 for explanation of symbols.

Log of Boring DP-11

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-12
Sheet 1 of 1

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
7/11/2013	7/11/2013	41	TML / RST	Cascade Drilling, LP	Hollow Stem Auger

Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	17.79 NAVD-88	Top of Casing Elevation (ft)	17.37
Easting (X) Northing (Y)	1269973.33 200473.26	Horizontal Datum	NAD-83

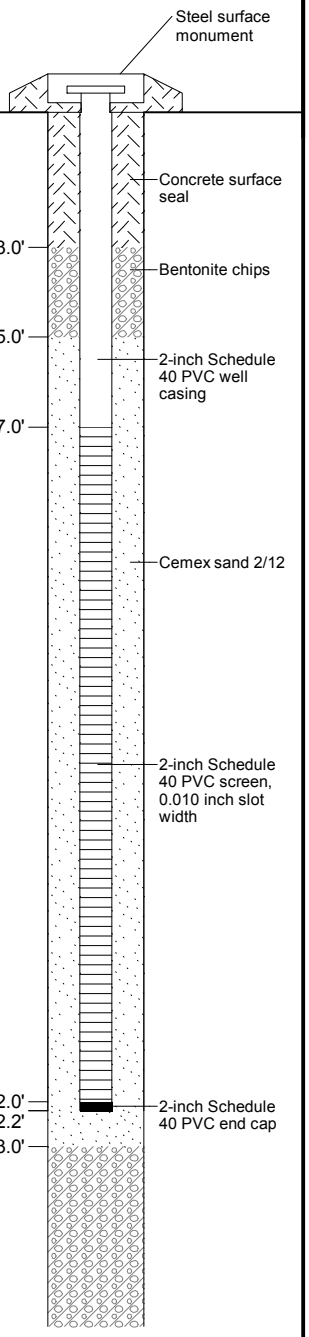
DOE Well I.D.: BIC 627
A 2 (in) well was installed on 7/11/2013 to a depth of 22 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
8/20/2013	11.2	6.6

Notes:

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0							AC	Approximately 4 inches asphalt concrete		
								SM	Dark brown silty fine to coarse sand with gravel (medium dense, moist) (fill)		
15		10	24		1			SM	Light gray silty fine sand with gravel (medium dense, moist)	NS	<1
	5	14	10		2			SM	Dark brown silty fine to medium sand (medium dense, moist)	NS	<1
								SM	Gray silty fine sand (medium dense, moist)		
10		15	5		3			SM	Brown silty fine sand (loose, moist)	NS	<1
	10	17	7		4 CA	▼		SM	Dark brown silty fine sand (loose, moist)	NS	<1
5		16	5		5			SM	Dark brown silty fine sand (loose, wet)	NS	<1
	15	16	5		6			SM	Dark brown to gray silty fine to medium sand (loose, wet)	NS	<1
0		15	5		7			SM	Dark brown silty fine sand with wood debris (loose, wet)	NS	<1
	20	17	5		8			SM	Dark brown silty fine to medium sand (loose, wet)	NS	<1
-5		17	6		9			SM	Dark brown to gray silty fine sand (loose, wet) (native?)	NS	<1
	25	16	4		10				2 inch layer of debris starting at 24.5 feet	NS	<1
									2 inch layer of debris starting at 26 feet		

WELL LOG



Note: See Figure B-1 for explanation of symbols.

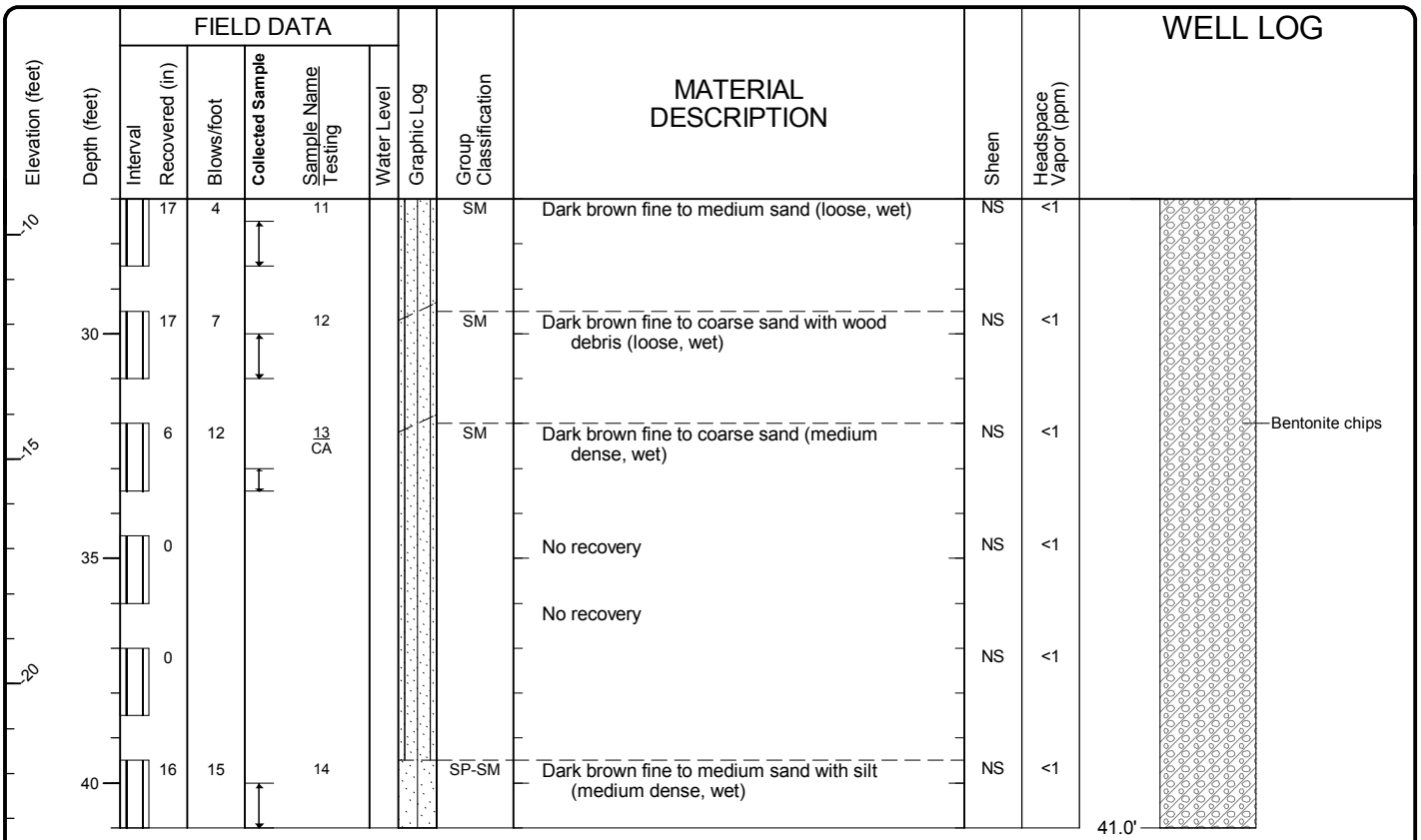
Log of Monitoring Well MW-2R

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-13
Sheet 1 of 2

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015502.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-2R (continued)

GeoEngineers

Project:	7100 1st Avenue South Site
Project Location:	Seattle, Washington
Project Number:	0275-015-02

Figure B-13
Sheet 2 of 2

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
7/12/2013	7/12/2013	38.5	TML / RST	Cascade Drilling, LP	Hollow Stem Auger

Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft)	18	Top of Casing Elevation (ft)	17.60
Vertical Datum	NAVD-88		
Easting (X)	1270168.34	Horizontal Datum	NAD-83
Northing (Y)	200441.16		

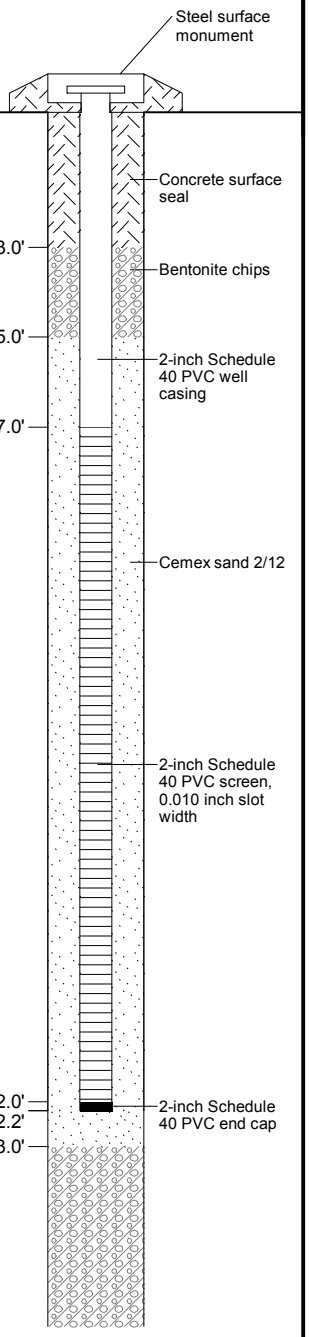
DOE Well I.D.: BIC 628
A 2 (in) well was installed on 7/12/2013 to a depth of 22 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
8/14/2013	11.8	6.2

Notes:

Elevation (feet)	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0						AC	Approximately 4 inches asphalt concrete		
							WD	Approximately 8 inches organic and wood debris (fill)		
							CC	Concrete debris		
		0	-						NS	<1
15							SM	Brown silty fine to coarse sand with gravel (medium dense, moist)		
	5	8	10	1					NS	<1
		5	4	2					NS	<1
10										
	10	6	4	3					NS	<1
							SM	Approximately ¼ inch layer of gray silty fine sand		
					▼			Brown sand with silt (loose, moist)		
5		16	4	4 CA					NS	<1
							SM	Brown to gray silty fine sand (loose, wet)		
							SP-SM	Brown sand with silt (loose, wet)		
	15	17	6	5					NS	<1
							SM	Dark brown to gray silty fine sand (loose, wet)		
							SM	Gray silty fine sand (loose, wet)		
0		16	6	6					NS	<1
							SM	Dark brown to balck silty fine sand (loose, wet)		
	20	14	8	7					NS	<1
		17	6	8					NS	<1
5										
							SM	Black silty fine sand (loose, wet) (native?)		
	25	17	5	9 CA					SS	<1
							SM			

WELL LOG



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-13

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-14
Sheet 1 of 2

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015502.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name / Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)	WELL LOG
									SM	Black silty fine sand with occasional wood debris (loose, wet)	NS	<1	
10													
	30		17	6		11			SM	Black silty fine sand (loose, wet) Approximately 1 inch layer of wood	NS	<1	Bentonite chips
			17	6		12 CA			SM	Black silty fine sand with trace wood debris (loose, wet)	NS	<1	
15													
	35		17	11		13			SM	Black silty fine sand (medium dense, wet)	NS	<1	
			14	13		14			SP-SM	Black sand with silt (medium dense, wet)	NS	<1	
20													38.5'

Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-13 (continued)

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-14
Sheet 2 of 2

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/9/2013	7/9/2013	36	TML	RST	Cascade Drilling, LP	Hollow Stem Auger

Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	16.56 NAVD-88	Top of Casing Elevation (ft)	16.16
Easting (X) Northing (Y)	1270057 200570.54	Horizontal Datum	NAD-83

DOE Well I.D.: BIC 623
A 2 (in) well was installed on 7/9/2013 to a depth of 22 (ft).

Groundwater	Depth to Water (ft)	Elevation (ft)
Date Measured		
8/19/2013	10.1	6.5

Notes:

Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
0							AC	Approximately 4 inches asphalt concrete		
							SM	Brown to gray silty fine to coarse sand with gravel (medium dense, moist) (fill)		
	15	53		1					NS	<1
5	14	18		2					NS	<1
	17	5		3 CA			SM	Dark brown silty fine sand (loose, moist)	NS	<1
10	16	8		4	▼				NS	<1
	17	6		5			SM	Dark brown silty fine to coarse sand (loose, moist)	NS	<1
	18	5		6			SP-SM	Black sand with silt (loose, moist)	NS	<1
15	16	6		7 CA					NS	<1
	15	4		8			SM	Black silty fine sand (loose, wet)	NS	<1
20	18	6		9					NS	<1
	18	4		10			ML	Black sandy silt (loose, wet) (native)	NS	<1
25										

WELL LOG

- Steel surface monument
- Concrete surface seal
- 3.0' — Bentonite chips
- 5.0' — 2-inch Schedule 40 PVC well casing
- 7.0' — Cemex sand 2/12
- 2-inch Schedule 40 PVC screen, 0.010 inch slot width
- 22.0' — 2-inch Schedule 40 PVC end cap
- 22.2'
- 23.0'

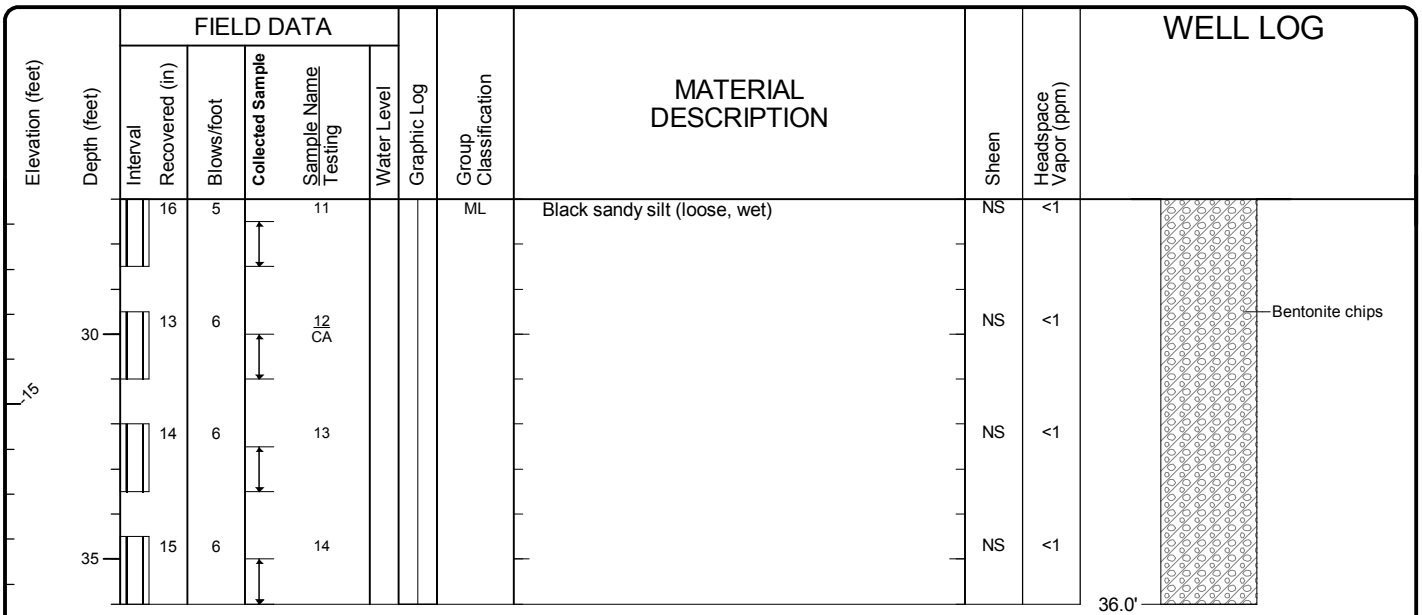
Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-14

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-15
Sheet 1 of 2



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-14 (continued)

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-15
Sheet 2 of 2

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/9/2013	7/9/2013	36	TML	RST	Cascade Drilling, LP	Hollow Stem Auger

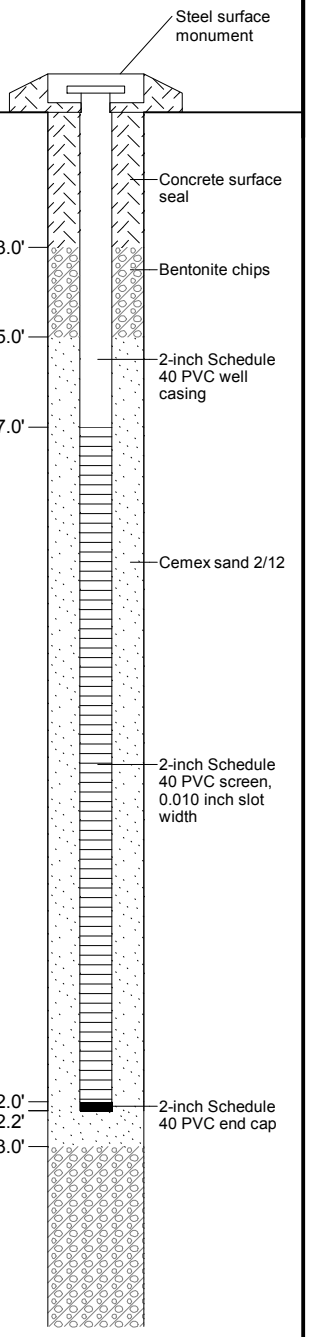
Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	15.94 NAVD-88	Top of Casing Elevation (ft)	15.49
Easting (X) Northing (Y)	1269984.93 200652.57	Horizontal Datum	NAD-83

DOE Well I.D.: BIC 622
A 2 (in) well was installed on 7/9/2013 to a depth of 22 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
8/15/2013	8.9	7.1

Notes:

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0								AC	Approximately 4 inches asphalt concrete		
15									SM	Brown silty fine to coarse sand with gravel (medium dense, moist) (fill)		
			8	26		1					NS	<1
	5		6	15		2					NS	<1
10										No recovery		
			0	7							NS	<1
	10		5	4		3			SM	Brown silty fine to medium sand with gravel (loose, moist)	NS	<1
5									SM	Dark brown silty fine sand with gravel (loose, wet)	NS	<1
			12	7		4 CA						
									SM	Dark brown silty fine sand (loose, wet)		
	15		16	6		5					NS	<1
0												
			10	6		6					NS	<1
									SM	Dark brown to black silty fine sand (loose, wet)		
	20		18	4		7					NS	<1
-5												
			18	7		8 CA					NS	<1
									SM	Black silty fine sand (loose, wet)		
	25		18	4		9					NS	<1
-10									ML			



Note: See Figure B-1 for explanation of symbols.

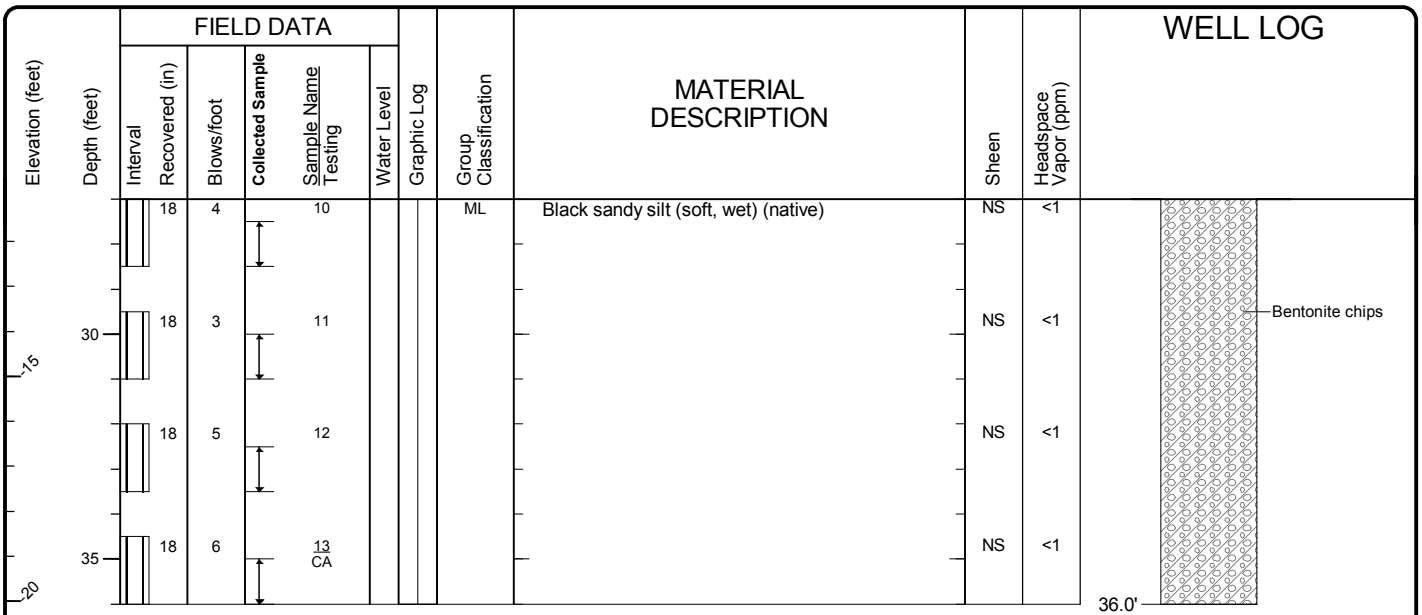
Log of Monitoring Well MW-15

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-16
Sheet 1 of 2

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015502.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-15 (continued)

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-16
Sheet 2 of 2

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
7/10/2013	7/10/2013	36	TML / RST	Cascade Drilling, LP	Hollow Stem Auger

Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	18.24 NAVD-88	Top of Casing Elevation (ft)	17.59
Easting (X) Northing (Y)	1269911.75 200514.57	Horizontal Datum	NAD-83

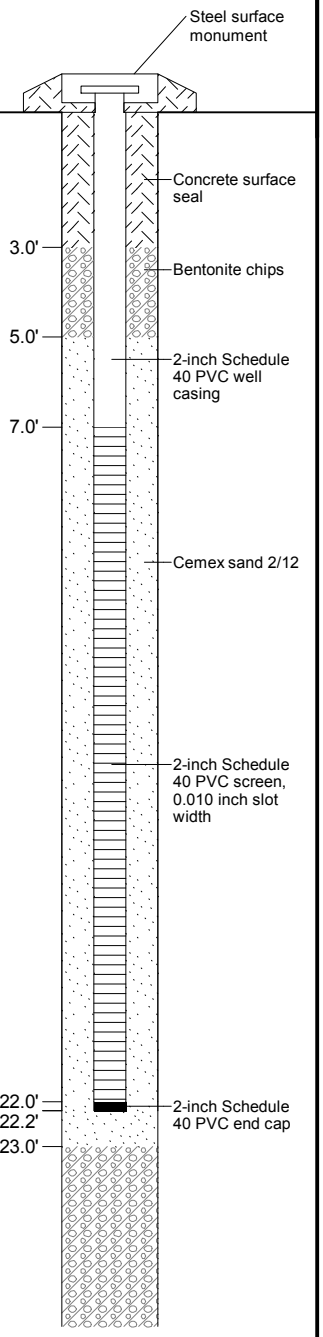
DOE Well I.D.: BIC 625
A 2 (in) well was installed on 7/10/2013 to a depth of 22 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
8/14/2013	11.3	6.9

Notes:

Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
0						AC	Approximately 4 inches asphalt concrete		
						CC	Approximately 6 inches concrete debris		
	12	18	1			SM	Brown silty fine to coarse sand with gravel and trace concrete debris (medium dense, moist) (fill)	NS	<1
5	13	10	2			SM	Dark brown silty fine to coarse sand (medium dense, moist)	NS	<1
	16	8	3			SM	Gray silty fine sand (loose, moist)	NS	<1
						ML	Black sandy silt (soft, moist)		
						SM	Dark brown silty fine sand (loose, moist)		
10	16	6	4	▼				NS	<1
	17	6	5 CA			SM	Dark brown silty fine to medium sand (loose, wet)	NS	<1
						ML	Black sandy silt (soft, wet)		
15	17	6	6					NS	<1
	17	4	7			SM	Black silty fine sand (loose, wet)	NS	<1
						SM	Black silty fine sand with occasional wood debris (loose, wet) (native)		
20	15	6	8					NS	<1
	17	6	9			SM	Black silty fine sand (loose, wet)	NS	<1
25	17	6	10 CA			SM	Gray to black silty fine sand (loose, wet)	HS	114
						SM			

WELL LOG



Note: See Figure B-1 for explanation of symbols.

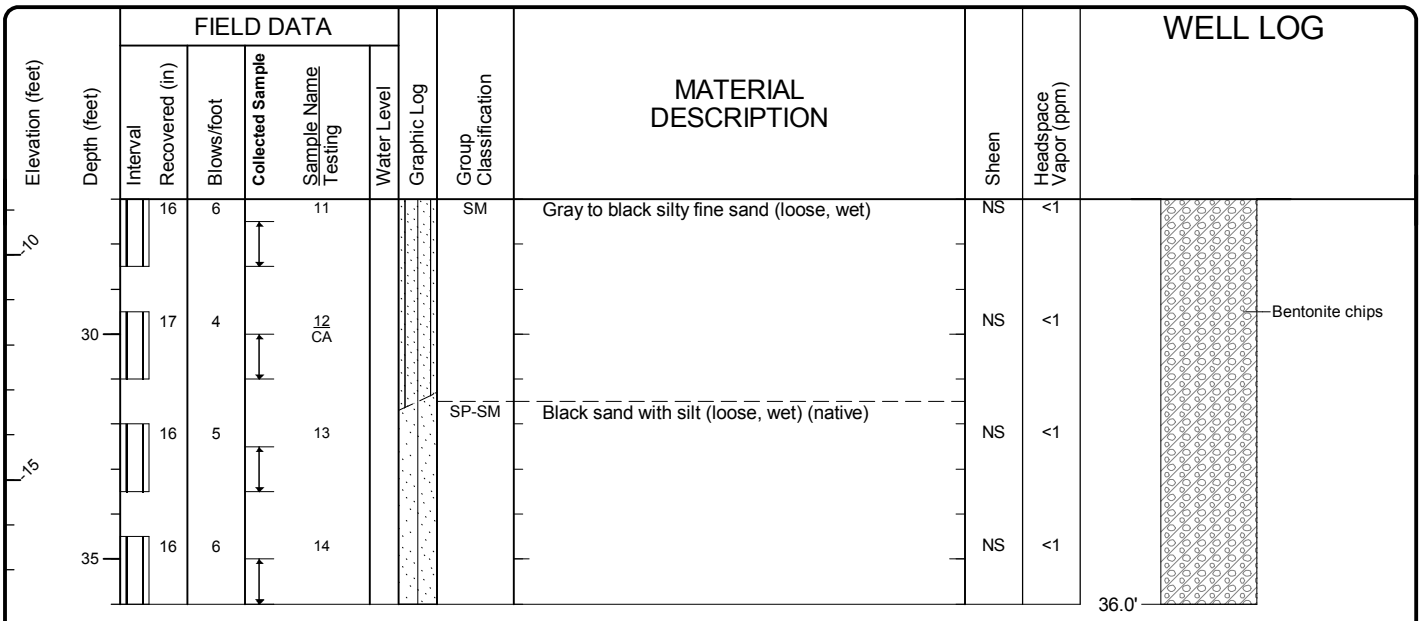
Log of Monitoring Well MW-16

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-17
Sheet 1 of 2

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015502.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-16 (continued)

GeoEngineers

Project:	7100 1st Avenue South Site
Project Location:	Seattle, Washington
Project Number:	0275-015-02

Figure B-17
Sheet 2 of 2

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/12/2013	7/12/2013	38.5	TML	RST	Cascade Drilling, LP	Hollow Stem Auger

Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	17.01 NAVD-88	Top of Casing Elevation (ft)	16.51
Easting (X) Northing (Y)	1269896.95 200611.47	Horizontal Datum	NAD-83

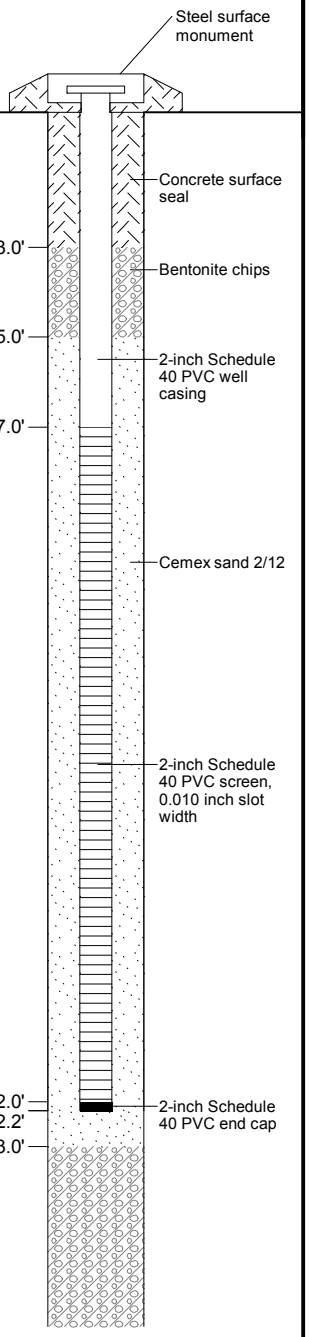
DOE Well I.D.: BIC 638
A 2 (in) well was installed on 7/12/2013 to a depth of 22 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
8/19/2013	10.0	7.0

Notes:

Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
0							AC	Approximately 8 inches asphalt concrete		
							SM	Brown silty fine to coarse sand with gravel and occasional concrete debris (very dense, moist)		
	12	50/6"		1					NS	<1
5	14	22		2					NS	<1
	16	13		3					NS	<1
							SM	Gray silty fine sand (medium dense, moist)		
10	17	4		4	▼				NS	<1
							SM	Black silty fine sand with occasional wood debris (loose, wet)		
	17	8		5 CA					NS	<1
							SM	Black silty fine sand (medium dense, wet)		
15	14	10		6					NS	<1
	17	4		7					NS	<1
							SM	Black silty fine sand with occasional wood debris (loose, wet)		
20	17	5		8					NS	<1
	15	7		9					NS	<1
25	17	8		10					SS	9
							SP-SM	Black sand with silt (loose, wet)		
							SM			

WELL LOG



Note: See Figure B-1 for explanation of symbols.

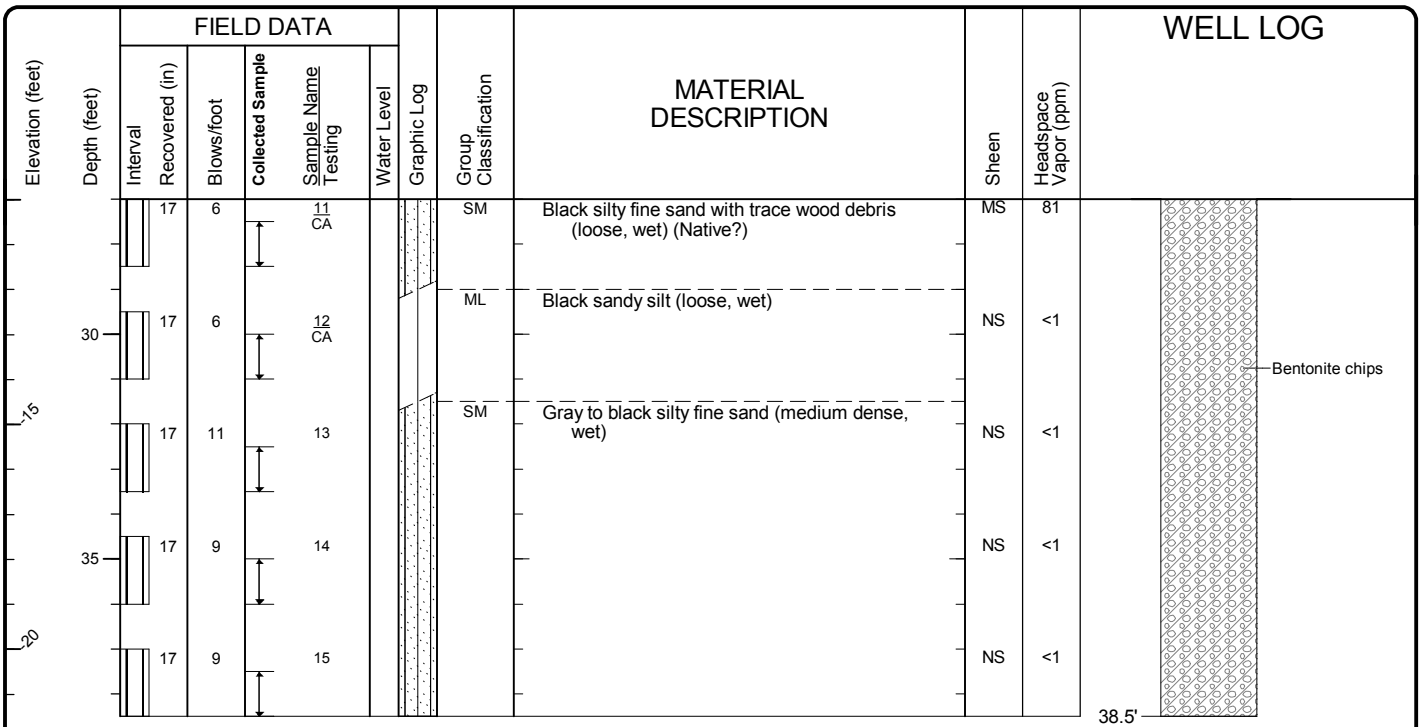
Log of Monitoring Well MW-17

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-18
Sheet 1 of 2

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015502.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-17 (continued)

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-18
Sheet 2 of 2

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	7/11/2013	7/11/2013	38.5	TML	RST	Cascade Drilling, LP	Hollow Stem Auger

Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	17.9 NAVD-88	Top of Casing Elevation (ft)	17.60
Easting (X) Northing (Y)	1270047.89 200466.66	Horizontal Datum	NAD-83

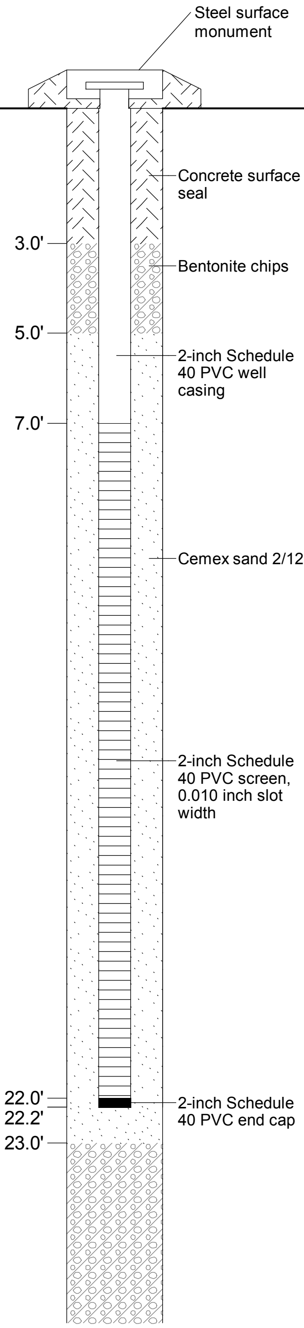
DOE Well I.D.: BIC 626
A 2 (in) well was installed on 7/11/2013 to a depth of 22 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
8/20/2013	11.1	6.8

Notes:

Elevation (feet)	Depth (feet)	Recovered (in)	Blows/foot	Sample Name / Testing	Water Level	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
	0					AC	Approximately 4 inches asphalt concrete		
						CC	Approximately 4 inches concrete debris		
						SM	Brown to gray silty fine to coarse sand with gravel (dense, moist) (fill)		
		14	40	1				SS	<1
15						SM	Brown silty fine to coarse sand (medium dense, moist)		
	5	13	13	2				NS	<1
						SM	Brown silty fine to coarse sand with gravel (medium dense, moist)		
10		9	14	3				NS	<1
	10	17	5	4				NS	<1
						SM	Gray silty fine sand (loose, moist)		
					▼				
						SM	Dark brown silty fine to medium sand (loose, wet)		
5		17	6	5 CA				NS	<1
						SP-SM	Dark brown to gray sand with silt (loose, wet)		
	15	17	5	6				NS	<1
						SM	Black silty fine sand (loose, wet)		
0		17	5	7				NS	<1
	20	17	4	8				NS	<1
5		14	5	9				NS	<1
						SM	Black silty fine sand with occasional wood debris (loose, wet) (Native?)		
	25	15	5	10				SS	<1
						SM			

WELL LOG



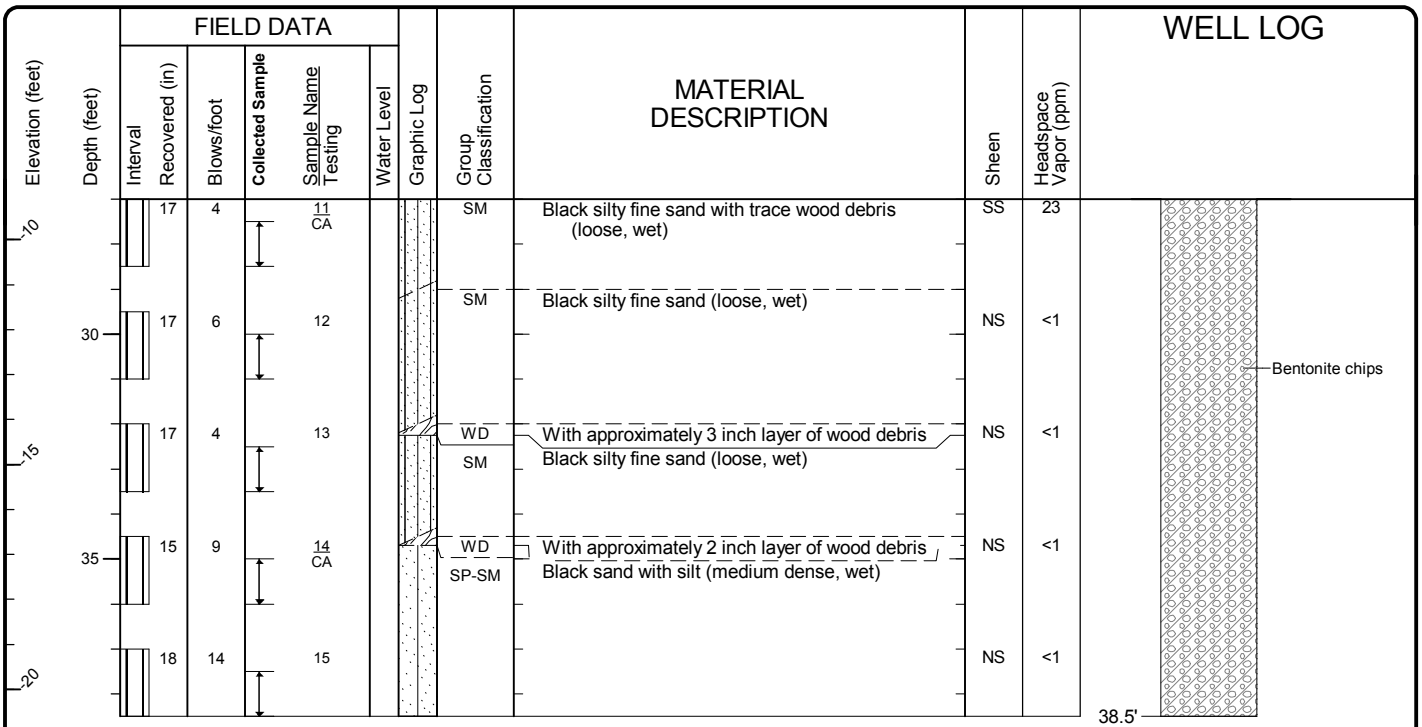
Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-18

GEOENGINEERS

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-19
Sheet 1 of 2



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-18 (continued)

GeoEngineers

Project:	7100 1st Avenue South Site
Project Location:	Seattle, Washington
Project Number:	0275-015-02

Figure B-19
Sheet 2 of 2

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
7/10/2013	7/10/2013	36	TML / RST	Cascade Drilling, LP	Hollow Stem Auger

Hammer Data	Down Hole 300 (lbs) / 30 (in) Drop	Drilling Equipment	CME 75
Surface Elevation (ft) Vertical Datum	17.49 NAVD-88	Top of Casing Elevation (ft)	16.99
Easting (X) Northing (Y)	1269975.89 200513.64	Horizontal Datum	NAD-83

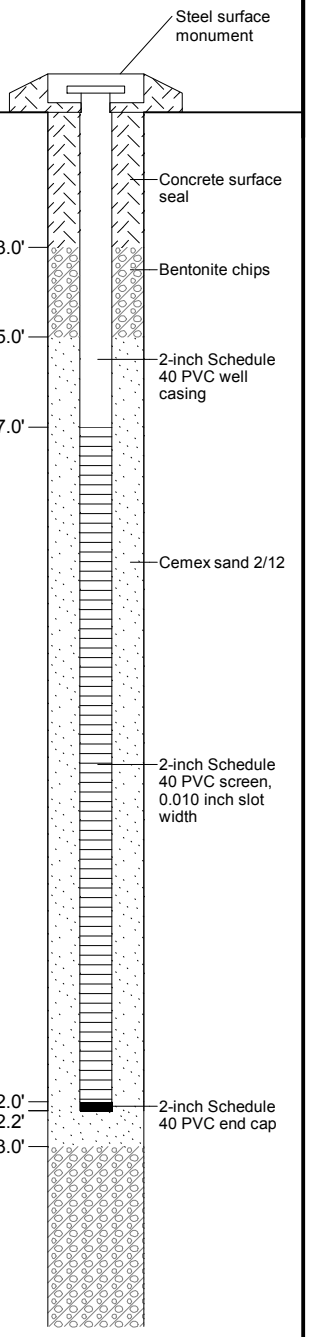
DOE Well I.D.: BIC 624
A 2 (in) well was installed on 7/10/2013 to a depth of 22 (ft).

Groundwater Date Measured	Depth to Water (ft)	Elevation (ft)
8/20/2013	10.8	6.7

Notes:

Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample / Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Sheen	Headspace Vapor (ppm)
0						AC	Approximately 4 inches asphalt concrete		
						SM	Brown silty fine to coarse sand with gravel and occasional wood debris (dense, moist) (Fill)		
	15	30						NS	<1
						SM	Dark brown silty fine to medium sand with occasional gravel (medium dense, moist)		
5	16	10	2					NS	<1
						SM	Dark brown silty fine sand with trace wood debris (loose, moist)		
	14	7	3					NS	<1
						SM	Dark brown silty fine sand (loose, moist)		
10	18	7	4	▼				NS	<1
	18	6	5 CA			SM	Dark brown silty fine to medium sand (loose, wet)	NS	<1
						SM	Dark brown silty fine sand (loose, wet)		
15	18	6	6				With approximately 1 to 2 inch layer of wood debris	NS	<1
						SM	Black silty fine sand (loose, wet)		
	18	6	7					NS	<1
						SM	Black silty fine sand with occasional wood debris (loose, wet) (Native?)		
20	14	4	8 CA					NS	<1
						ML	Black sandy silt (soft, wet)		
	18	6	9					NS	<1
						SM	Black silty fine sand (loose, wet)		
25	15	4	10					SS	<1
						ML			

WELL LOG



Note: See Figure B-1 for explanation of symbols.

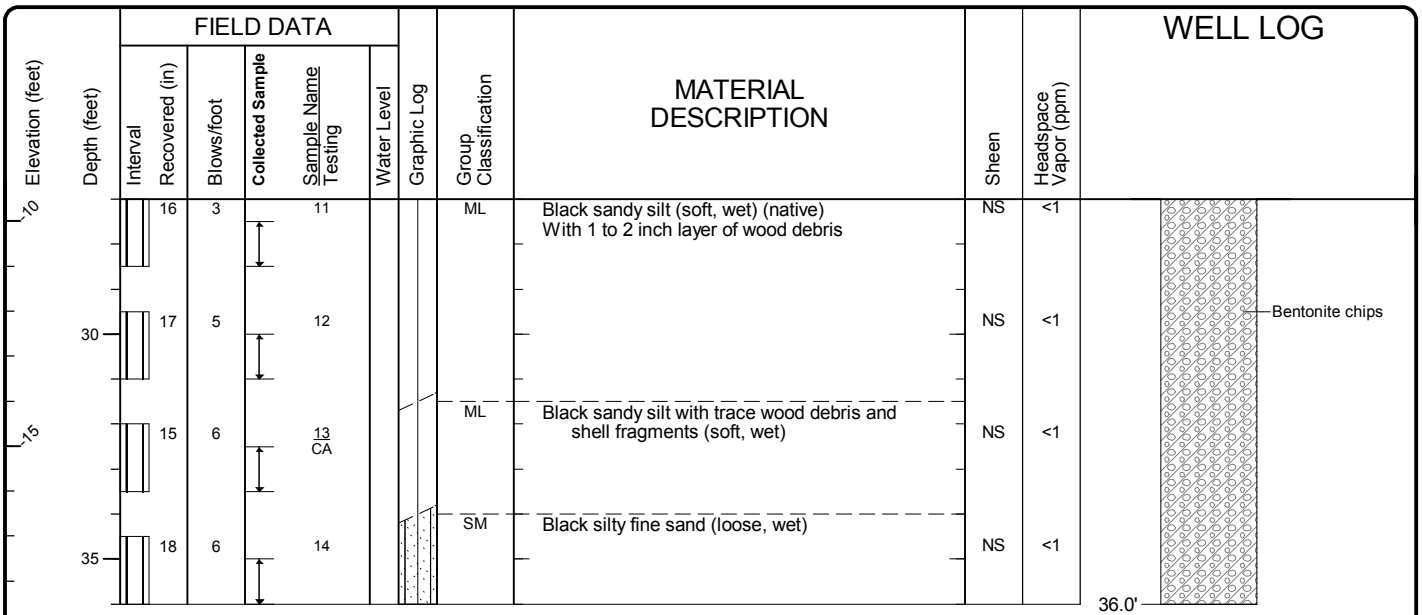
Log of Monitoring Well MW-19

GeoEngineers

Project: 7100 1st Avenue South Site
Project Location: Seattle, Washington
Project Number: 0275-015-02

Figure B-20
Sheet 1 of 2

Seattle: Date:2/12/15 Path:C:\USERS\TTAYLOR\DESKTOP\0275015502.GPJ DBTemplate/LibTemplate:GEOENGINEERS8.GDT/GEI8_ENVIRONMENTAL_WELL



Note: See Figure B-1 for explanation of symbols.

Log of Monitoring Well MW-19 (continued)

GeoEngineers

Project:	7100 1st Avenue South Site
Project Location:	Seattle, Washington
Project Number:	0275-015-02

Figure B-20
Sheet 2 of 2

APPENDIX C
Previous Environmental Study Exploration Logs

Key to Exploration Logs

Sample Descriptions

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

SAND or GRAVEL Density	Standard Penetration Resistance in Blows/Foot	SILT or CLAY Consistency	Standard Penetration Resistance in Blows/Foot	Approximate Shear Strength in TSF
Very loose	0 - 4	Very soft	0 - 2	<0.125
Loose	4 - 10	Soft	2 - 4	0.125 - 0.25
Medium dense	10 - 30	Medium stiff	4 - 8	0.25 - 0.5
Dense	30 - 50	Stiff	8 - 15	0.5 - 1.0
Very dense	>50	Very stiff	15 - 30	1.0 - 2.0
		Hard	>30	>2.0

Moisture

Dry	Little perceptible moisture
Damp	Some perceptible moisture, probably below optimum
Moist	Probably near optimum moisture content
Wet	Much perceptible moisture, probably above optimum

Minor Constituents

	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Sampling

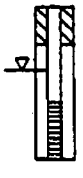
BORING SAMPLES

- Split Spoon
- Shelby Tube
- Cuttings
- Core Run
- * No Sample Recovery
- P Tube Pushed, Not Driven

TEST PIT SAMPLES

- Grab (Jar)
- Bag
- Shelby Tube

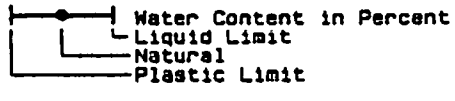
Ground Water Observations



- Surface Seal
- Ground Water Level on Date (ATD) At Time of Drilling
- Observation Well Tip or Slotted Section
- Ground Water Seepage (Test Pits)

Test Symbols

GS	Grain Size Classification
CN	Consolidation
TUU	Triaxial Unconsolidated Undrained
TCU	Triaxial Consolidated Undrained
TCD	Triaxial Consolidated Drained
QU	Unconfined Compression
DS	Direct Shear
K	Permeability
PP	Pocket Penetrometer Approximate Compressive Strength in TSF
TV	Torvane Approximate Shear Strength in TSF
CBR	California Bearing Ratio
MD	Moisture Density Relationship
AL	Atterberg Limits



J-1659-03 September 1987
HART-CROWSER & associates, inc.
Figure A-1

HC-81

Boring Log and Construction Data for Well B-1

Geologic Log

Depth in Feet

Ground Surface Elevation in Feet 93.8

0 – Loose, moist, gray, silty, gravelly, fine to coarse SAND. (FILL)

5 – Very dense, moist to wet, gray, silty, sandy GRAVEL with abundant WOOD material.

10 – Medium dense to very loose, wet, black, gravelly, silty to very silty, fine to coarse SAND with wood fibers and occasional shells. Slight oil sheen.

15

20 – Loose, wet, dark gray, slightly silty, fine SAND with occasional gravel and shells.

25 – Bottom of Boring at 25.0 Feet. Completed 5/5/86.

30

35

40

45

50

Sample N

Composited for Chemical Analysis

S-1	4
S-2	50/6"
S-3	4
S-4	10
S-5	4
S-6	1
S-7	4
S-8	8
S-9	8

Well Design

Top Casing Relative Elevation in Feet 95.3 (B-3=100.0)

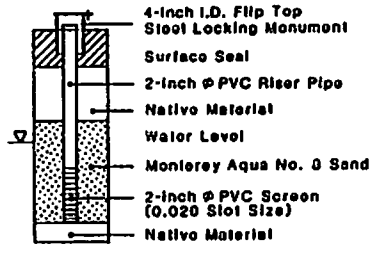
Casing Stickup in Feet 1.5

■ Headspace Volatile Hydrocarbon Reading in ppm

1 10 100

5/14/86

ATD



NOTES:

1. Soil descriptions are interpretive and actual changes may be gradual.
2. Water Level is for date indicated and may vary with time of year. ATD: At time of drilling
3. Headspace Volatile Hydrocarbon Concentration as measured in jar samples using an H-Nu PI-101 Photoionization Meter with a 10.2 eV Lamp.

⊠ 2-inch O.D. Split Spoon Sample Driven by 140-lb. Hammer 30-inch Fall

N Standard Penetration Resistance, Blows per Foot

J-1659 May 1986

HART-CROWSER & associates, inc.

Figure A-2

Boring Log and Construction Data for Well B-1A

HC-91A

Geologic Log

Depth in Feet

Ground Surface Elevation in Feet 93.8

0 — (Loose), damp to moist, brown to gray, silty, gravelly SAND and CONCRETE DEBRIS.

5 — (Medium dense), wet, gray, silty, sandy GRAVEL with trace wood.

10 — (Medium dense to loose), wet, gray to black, gravelly, silty, fine to coarse SAND with some wood fibers, with slight oil-like sheen and hydrocarbon-like odor.

15

20 — Bottom of Boring at 20.0 Feet.
Completed 9/19/86.

Note: Pulled auger, backfilled with bentonite quick gel powder.

25

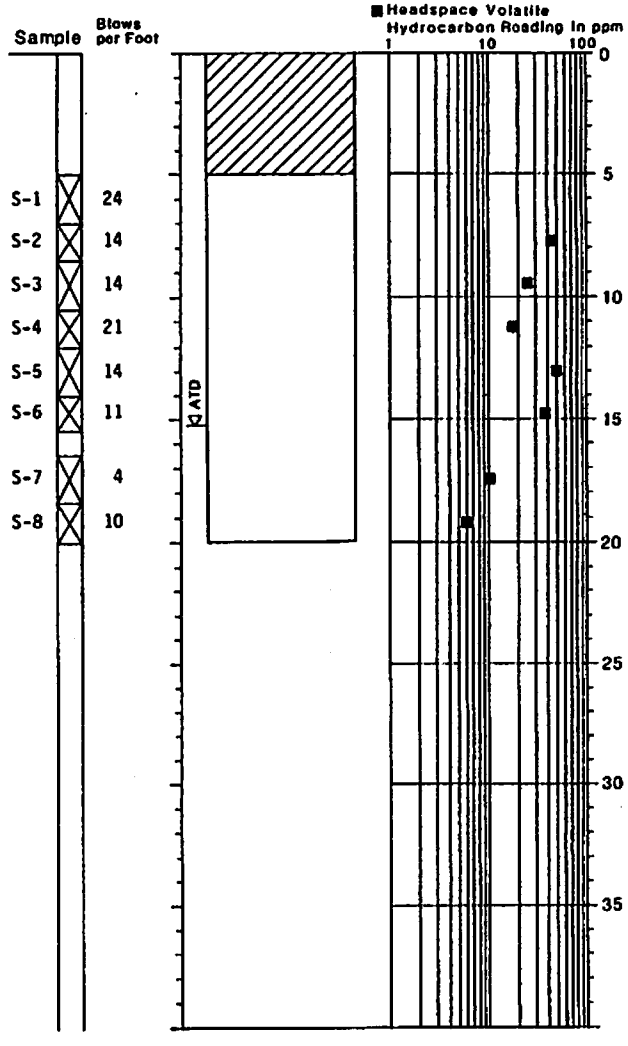
30

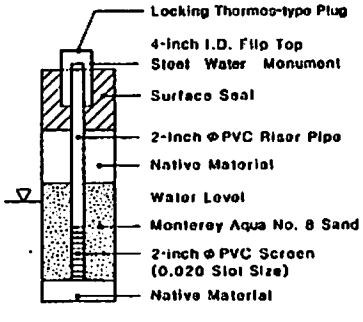
35

Well Design

Top Casing Relative Elevation in Feet

Casing Stickup in Feet





NOTES:

1. Soil descriptions are interpretive and actual changes may be gradual.
2. Water Level is for date indicated and may vary with time of year. ATD: At time of drilling
3. Headspace Volatile Hydrocarbon Concentration as measured in jar samples using an H-Nu PI-101 Photoionization Meter with a 10.2 eV Lamp.

2-1/2 Inch I.D. Split Spoon Sample Driven by 140-lb. Hammer, 30-inch Fall

J-1659 September 1986

HART-CROWSER & associates, inc.

Figure A-3

HC-B2

Boring Log and Construction Data for Well B-2

Geologic Log

Depth in Feet

Ground Surface Elevation in Feet 94.4

0 – Loose to medium dense, wet to moist, brown to gray, gravelly, silty, fine to coarse SAND. (FILL)

5 – Turning black with slight hydrocarbon-like odor.

– Slight oil sheen present.

10 – Very loose, wet, black, slightly gravelly, silty to very silty, fine to coarse SAND with wood. Slight oil sheen present.

– Decomposed WOOD and charoal-like material.

15 – Loose, wet, dark gray, silty SAND with wood fiber. (FILL?)

20 – Very loose, wet, tan, very silty, fine SAND.

25 – Bottom of Boring at 25.0 Feet. Completed 5/5/86.

30

35

40

45

50

Sample N

Composited for Chemical Analysis

Sample	N
S-1	8
S-2	18
S-3	15
S-4	2
S-5	2
S-6	2
S-7	5
S-8	4
S-9	3

Well Design

Top Casing Relative Elevation in Feet 95.4 (B-3=100.0)

Casing Stickup in Feet 1.0

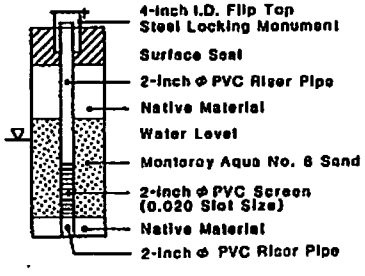
■ Headspace Volatile Hydrocarbon Reading in ppm

1 10 100

5/14/86

ATD

0 5 15 20 25 30 35 40 45 50



NOTES:

1. Soil descriptions are interpretive and actual changes may be gradual.
2. Water Level is for date indicated and may vary with time of year. ATD: At time of drilling
3. Headspace Volatile Hydrocarbon Concentration as measured in jar samples using an H-Nu PI-101 Photoionization Meter with a 10.2 eV Lamp.

⊠ 2-inch O.D. Split Spoon Sample Driven by 140-lb. Hammer 30-inch Fall

N Standard Penetration Resistance, Blows per Foot

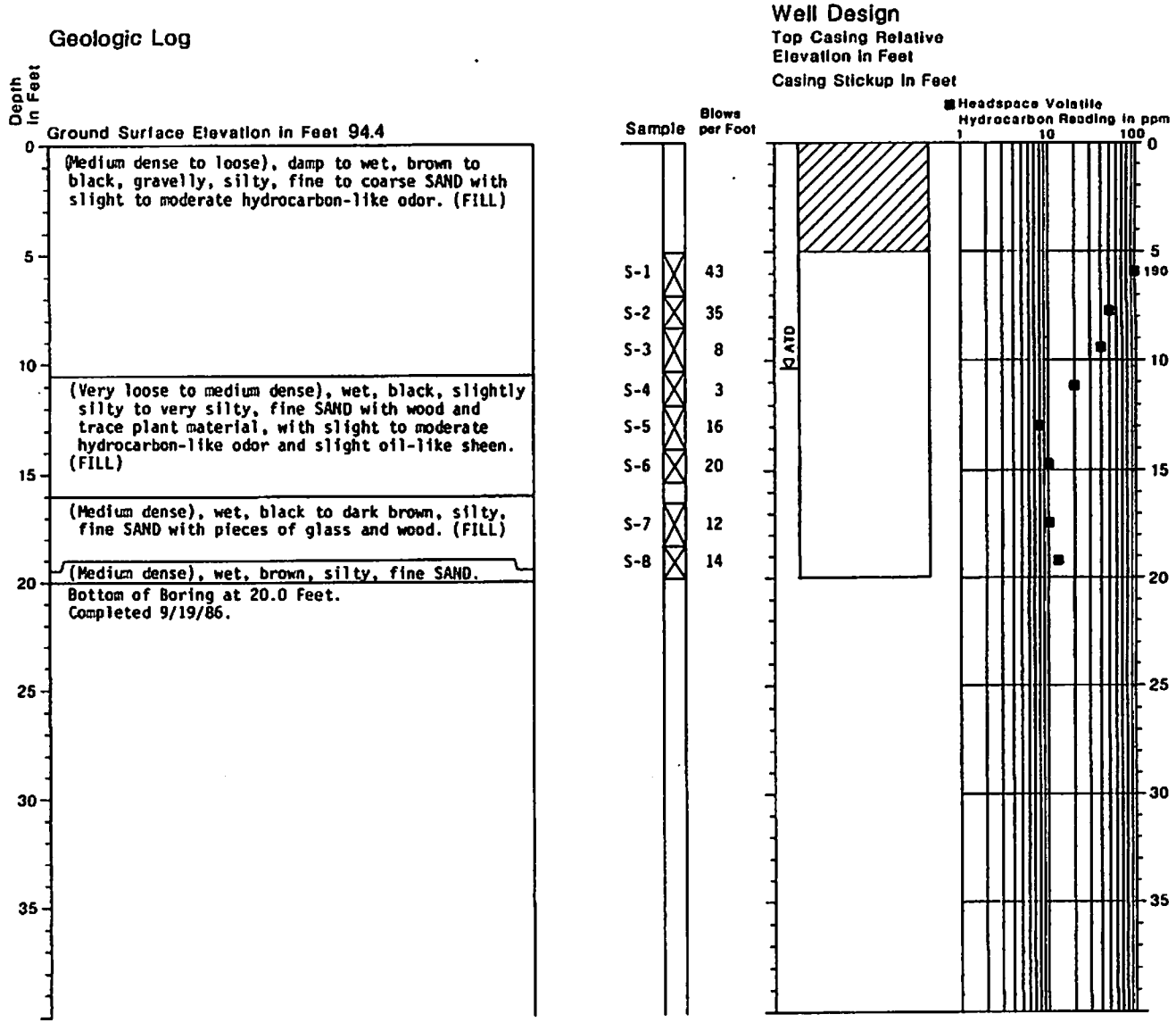
J-1659 May 1986

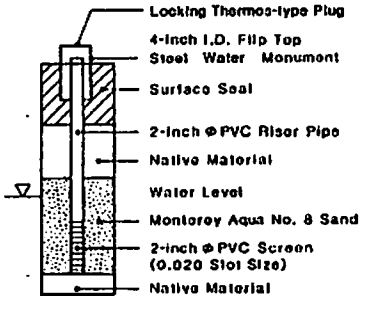
HART-CROWSER & associates, inc.

Figure A-4

Boring Log and Construction Data for Well B-2A

HC-B2A





NOTES:

1. Soil descriptions are interpretive and actual changes may be gradual.
2. Water Level is for date indicated and may vary with time of year.
   ATD: At time of drilling
3. Headspace Volatile Hydrocarbon Concentration as measured in jar samples using an H-Nu PI-101 Photoionization Meter with a 10.2 eV Lamp.

⊠ 2-1/2 inch I.D. Split Spoon Sample Driven by 140-lb. Hammer, 30-inch Fall

J-1659 September 1986

HART-CROWSER & associates, inc.

Figure A-5

Boring Log and Construction Data for Well B-3

HCB-3

Geologic Log

Depth in Feet

Ground Surface Elevation in Feet 99.0

0 – Medium dense to loose, moist to wet, brown to gray, very silty to silty, fine SAND with occasional gravel. (FILL)

5 –

Soft, wet, gray, clayey, very fine sandy SILT with wood and plant material.

10 – Abundant wood and plant material.

15 – Medium dense to dense, wet, gray, slightly silty, fine SAND.

20 –

25 – Bottom of Boring at 25.0 Feet. Completed 5/6/86.

30 –

35 –

40 –

45 –

50

Well Design

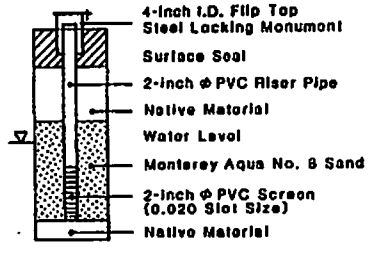
Top Casing Relative Elevation in Feet 100.0 (Arbitrary)

Casing Stickup in Feet 1.5

Sample	N
S-1	10
S-2	8
S-3	2
S-4	2
S-5	3
S-6	23
S-7	25
S-8	21
S-9	48

■ Headspace Volatile Hydrocarbon Reading in ppm (1, 10, 100)

5/14/86 ATD



NOTES:

1. Soil descriptions are interpretive and actual changes may be gradual.
2. Water Level is for date indicated and may vary with time of year.
   ATD: At time of drilling
3. Headspace Volatile Hydrocarbon Concentration as measured in jar samples using an H-Nu PI-101 Photoionization Meter with a 10.2 eV Lamp.

⊠ 2-inch O.D. Split Spoon Sample Driven by 140-lb. Hammer 30-inch Fall

N Standard Penetration Resistance, Blows per Foot

J-1659 May 1986

HART-CROWSER & associates, inc.

Figure A-6

Boring Log and Construction Data for Well B-4

HC-34

Geologic Log

Depth in Feet

Ground Surface Elevation in Feet 98.5

0 – (Medium dense), damp to moist, brown to gray, slightly silty, fine SAND.

10 – (Medium stiff), wet, gray to brownish gray, very sandy SILT with some 1/2 to 2-inch layers of black decomposed to brown decomposed grass-like plant material and sandy SILT.

15 – (Medium dense), wet, gray, slightly silty to clean, fine to medium SAND with trace grass-like plant material.

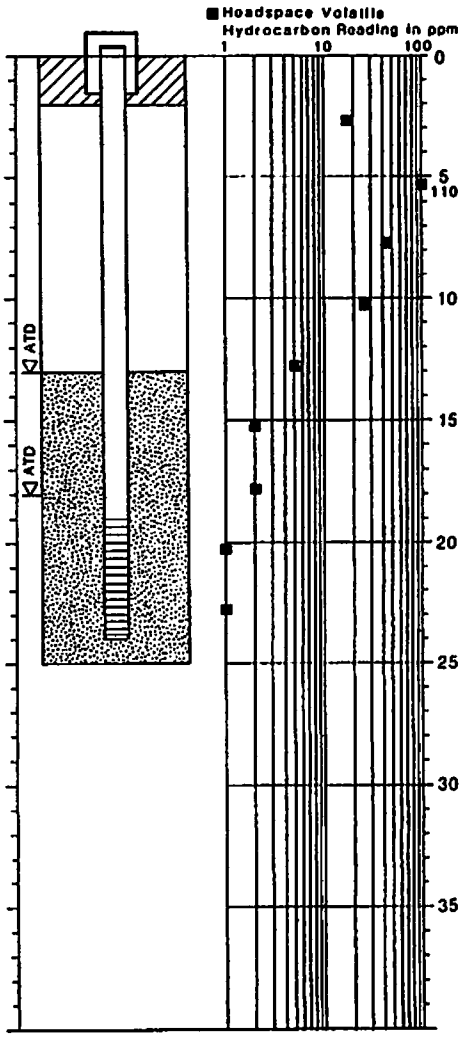
25 – Bottom of Boring at 25.0 Feet.
Completed 9/18/86.

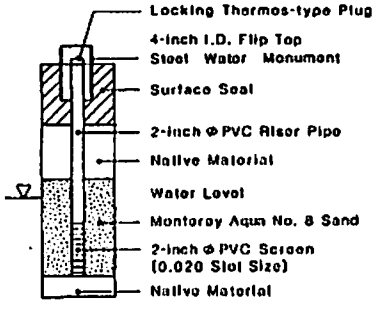
Well Design

Top Casing Relative Elevation in Feet 99.0

Casing Stickup in Feet 0.5

Sample	Blows per Foot
S-1	22
S-2	16
S-3	15
S-4	5
S-5	4
S-6	22
S-7	33
S-8	24
S-9	20





NOTES:

1. Soil descriptions are interpretive and actual changes may be gradual.
2. Water Level is for date indicated and may vary with time of year. ATD: At time of drilling
3. Headspace Volatile Hydrocarbon Concentration as measured in jar samples using an H-Nu PI-101 Photoionization Meter with a 10.2 eV Lamp.

⊠ 2-1/2 Inch I.D. Split Spoon Sample Driven by 140-lb. Hammer, 30-inch Fall

J-1659-03 September 1986

HART-CROWSER & associates, inc.

Figure A-7

Boring Log and Construction Data for Well B-5

HC35

Geologic Log

Depth in Feet

Ground Surface Elevation in Feet 94.8

0 – (Medium dense), damp, brown, silty, fine SAND with 1/2 to 4 inch wet, gray, very silty, fine SAND lenses.

5

(Medium stiff), wet, gray, clayey, very sandy SILT with some slightly decomposed grass-like plants, roots and occasional pieces of wood.

10

(Loose to medium dense), wet, brownish gray to gray, very silty to silty, fine SAND with 1/4 inch clay laminations with trace plant roots.

15

(Medium dense to dense), wet, gray, silty to clean, fine to coarse SAND.

20

25 – Bottom of Boring at 24.0 Feet. Completed 9/18/86.

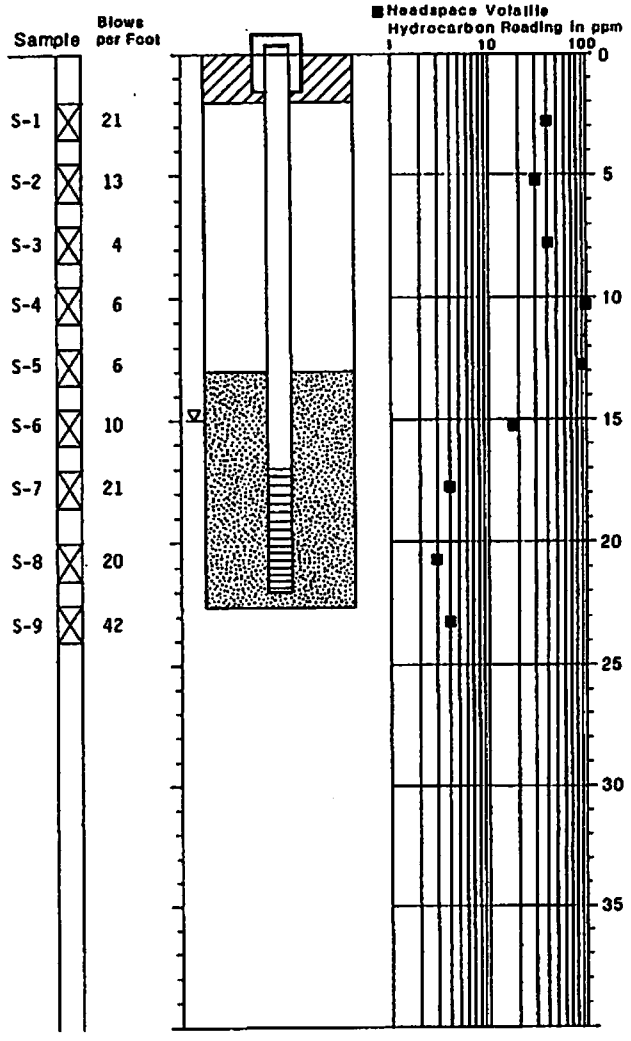
30

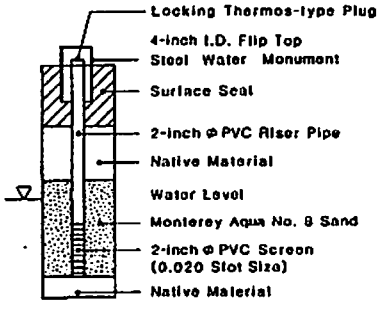
35

Well Design

Top Casing Relative Elevation in Feet 95.3

Casing Stickup in Feet 0.5





NOTES:

1. Soil descriptions are interpretive and actual changes may be gradual.
2. Water Level is for date indicated and may vary with time of year. ATD: At time of drilling
3. Headspace Volatile Hydrocarbon Concentration as measured in jar samples using an H-Nu PI-101 Photoionization Meter with a 10.2 eV Lamp.

⊠ 2-1/2 inch I.D. Split Spoon Sample Driven by 140-lb. Hammer, 30-inch Fall

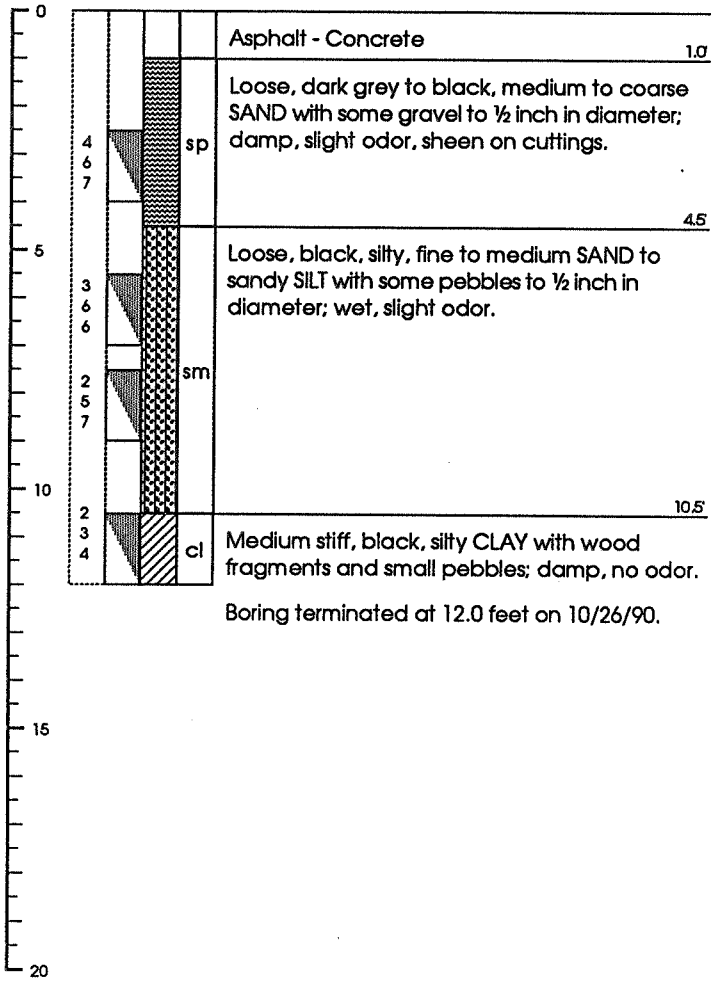
J-1659-03 September 1986

HART-CROWSER & associates, inc.

Figure A-8

Geological Boring Log

SB - 1



Asphalt - Concrete — 1.0

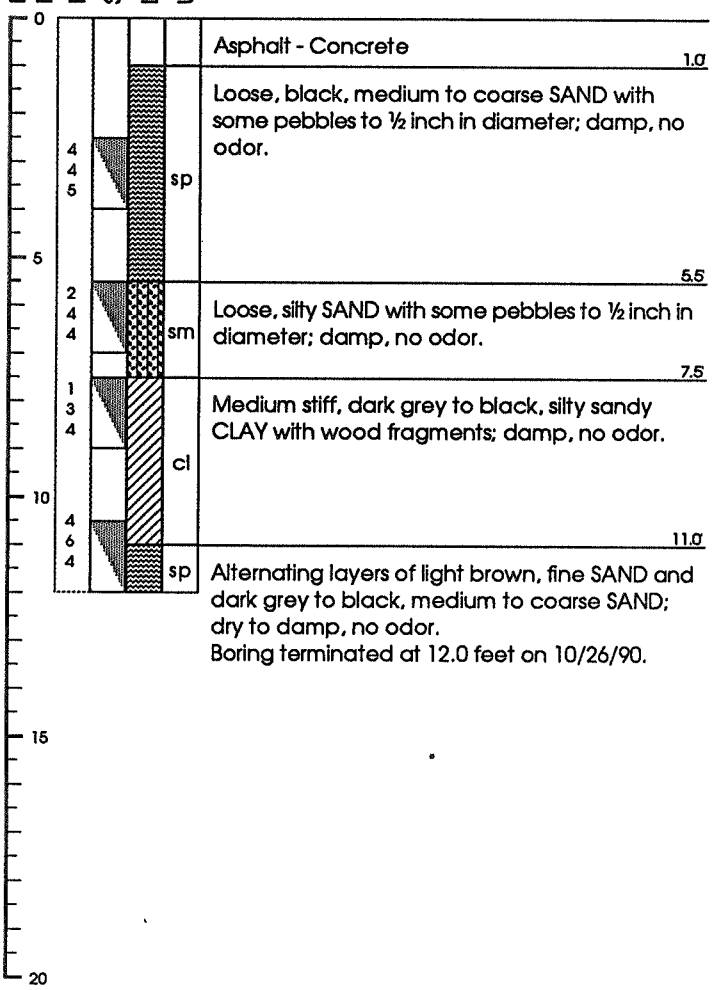
Loose, dark grey to black, medium to coarse SAND with some gravel to ½ inch in diameter; damp, slight odor, sheen on cuttings. — 4.5

Loose, black, silty, fine to medium SAND to sandy SILT with some pebbles to ½ inch in diameter; wet, slight odor. — 10.5

Medium stiff, black, silty CLAY with wood fragments and small pebbles; damp, no odor.

Boring terminated at 12.0 feet on 10/26/90.

SB - 2



Asphalt - Concrete — 1.0

Loose, black, medium to coarse SAND with some pebbles to ½ inch in diameter; damp, no odor. — 5.5

Loose, silty SAND with some pebbles to ½ inch in diameter; damp, no odor. — 7.5

Medium stiff, dark grey to black, silty sandy CLAY with wood fragments; damp, no odor. — 11.0

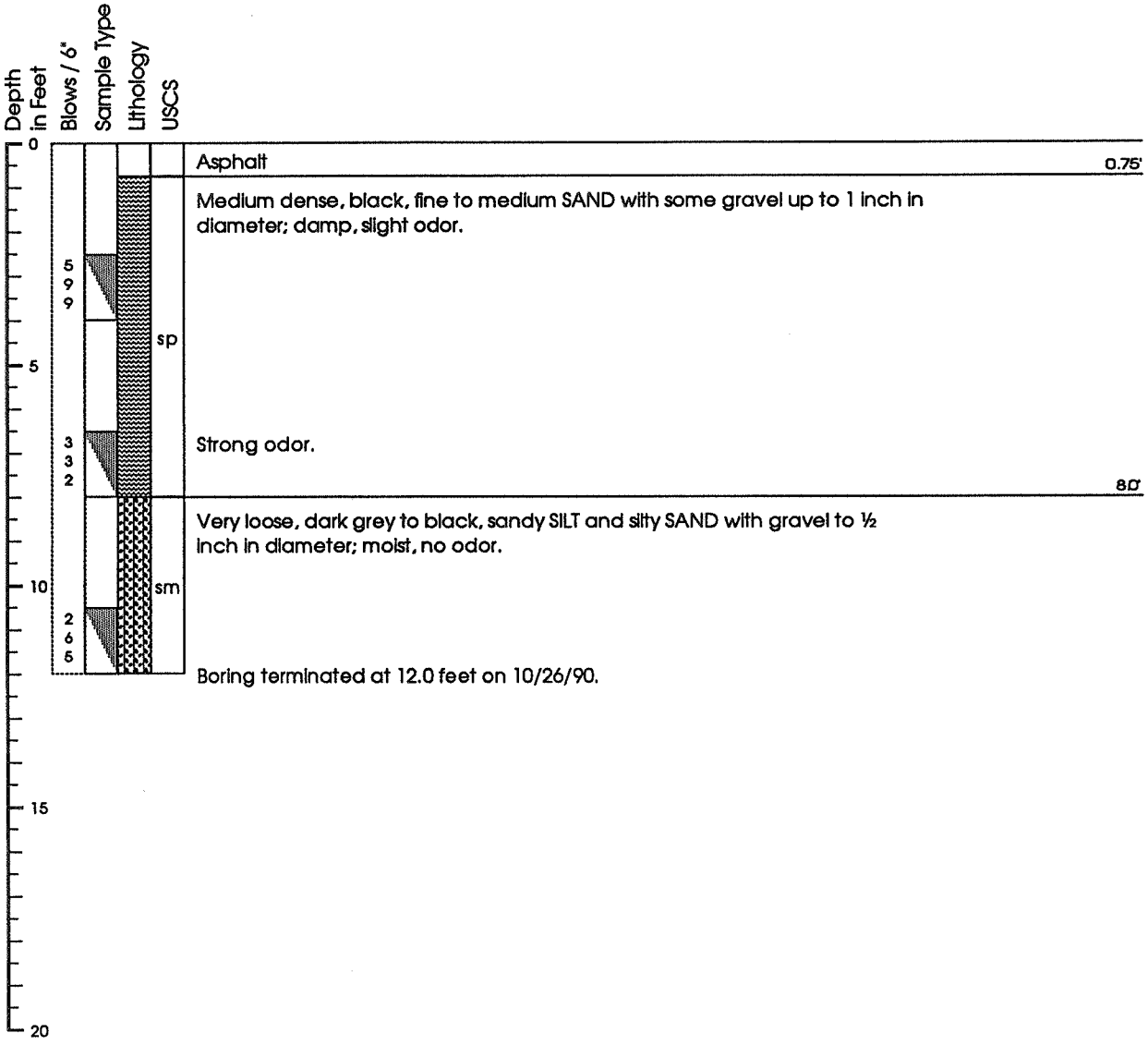
Alternating layers of light brown, fine SAND and dark grey to black, medium to coarse SAND; dry to damp, no odor.
Boring terminated at 12.0 feet on 10/26/90.

Notes:

Client Name:	Alaska Marine Lines	Drilling Co.:	GeoBoring & Development, Inc.
Project Name:	7100 2ND Ave.	Drilling Method:	Hollow-Stem Auger
Logged By:	MAC		

Geological Boring Log

SB - 3

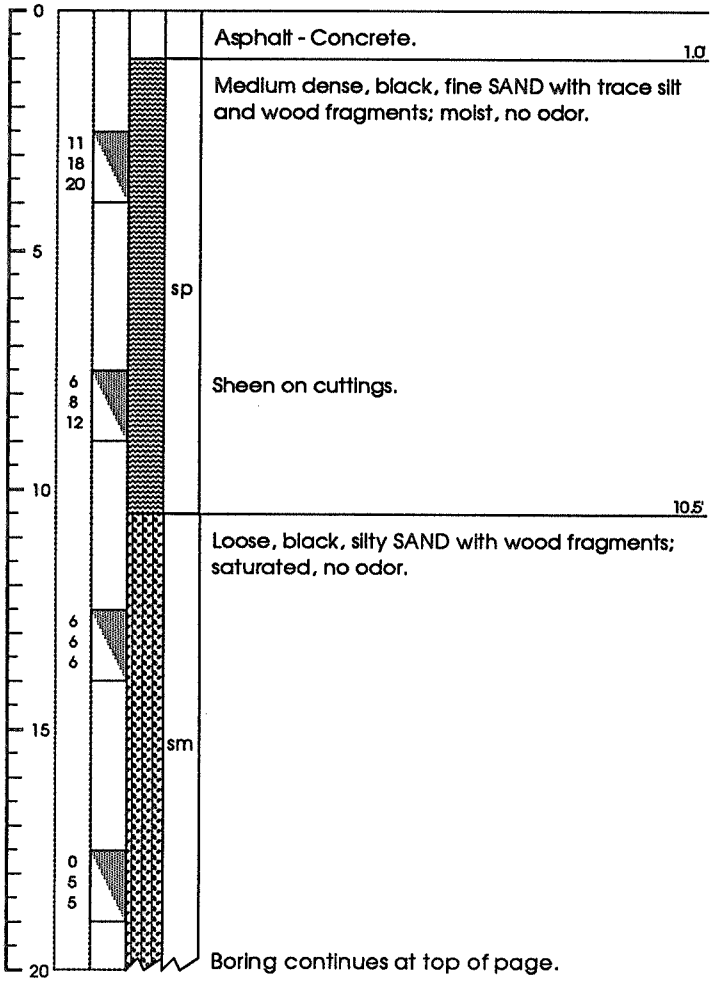


Notes:

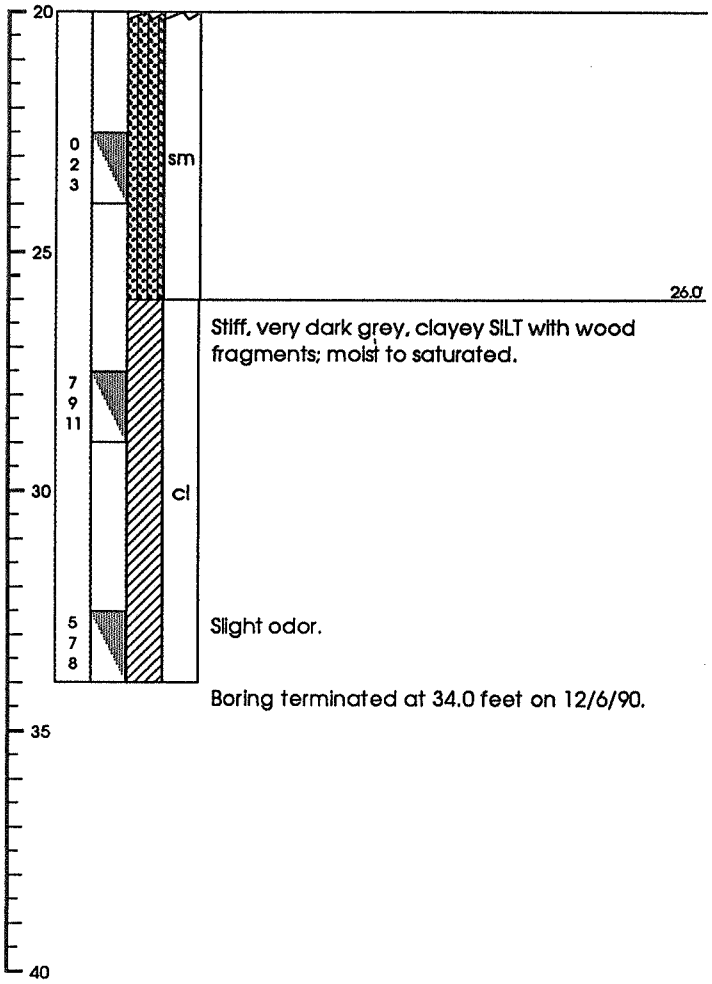
Client Name: Alaska Marine Lines	Drilling Co.: GeoBoring & Development, Inc.
Project Name: 7100 2ND Ave.	Drilling Method: Hollow-Stem Auger
Logged By: MAC	

Geological Boring Log

SB - 4



SB - 4 continued

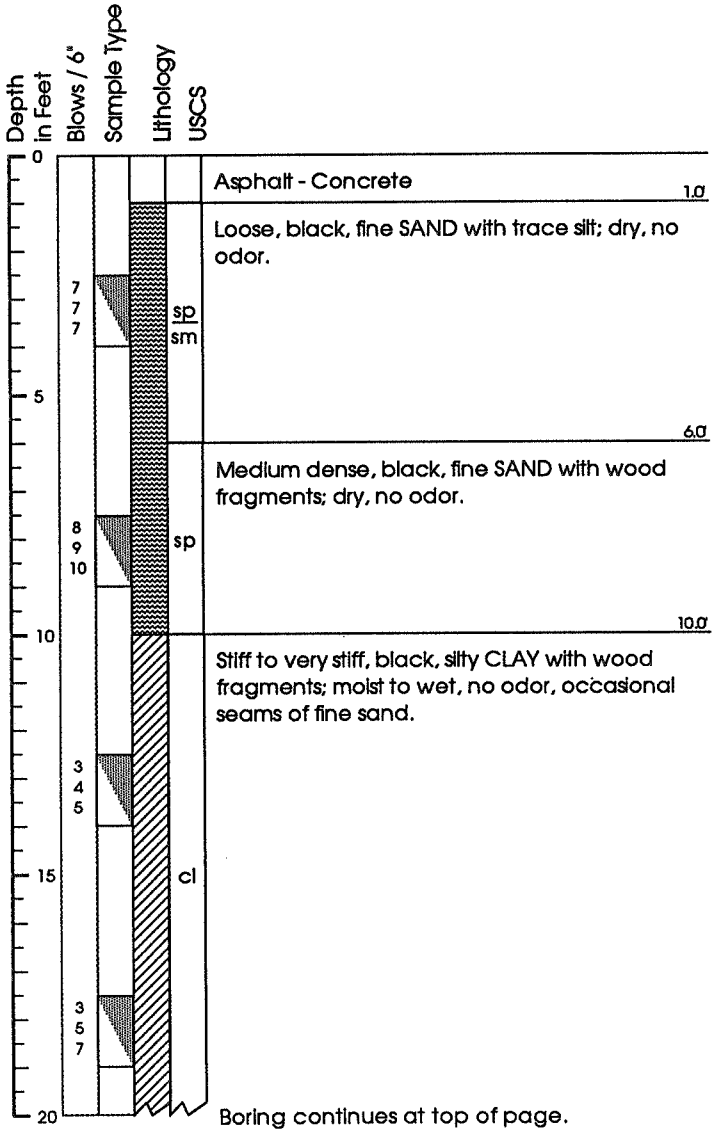


Notes:

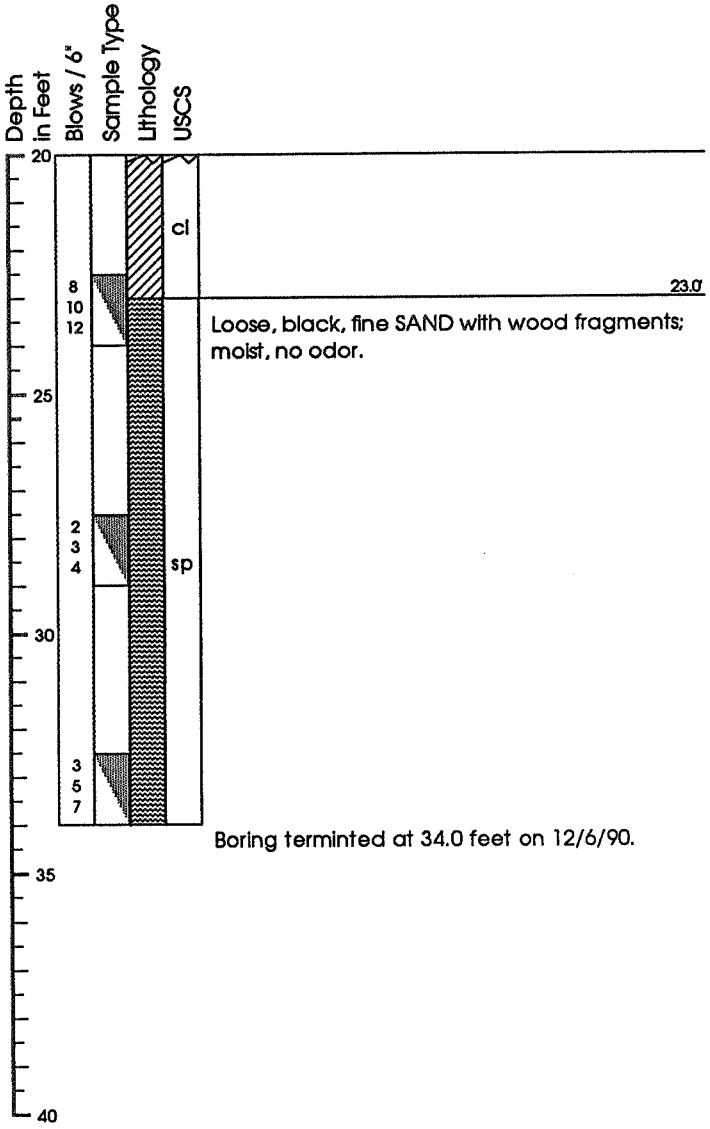
Client Name:	Alaska Marine Lines	Drilling Co.:	GeoBoring & Development, Inc.
Project Name:	7100 2ND Ave.	Drilling Method:	Hollow-Stem Auger
Logged By:	JKM		

Geological Boring Log

SB - 5



SB - 5 continued

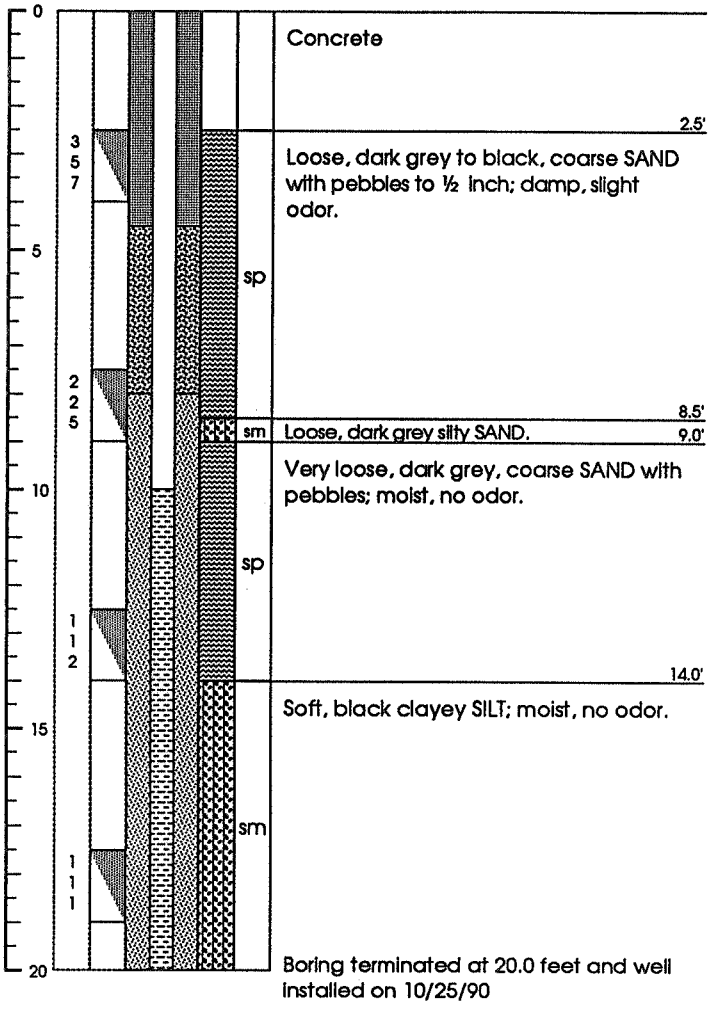


Notes:

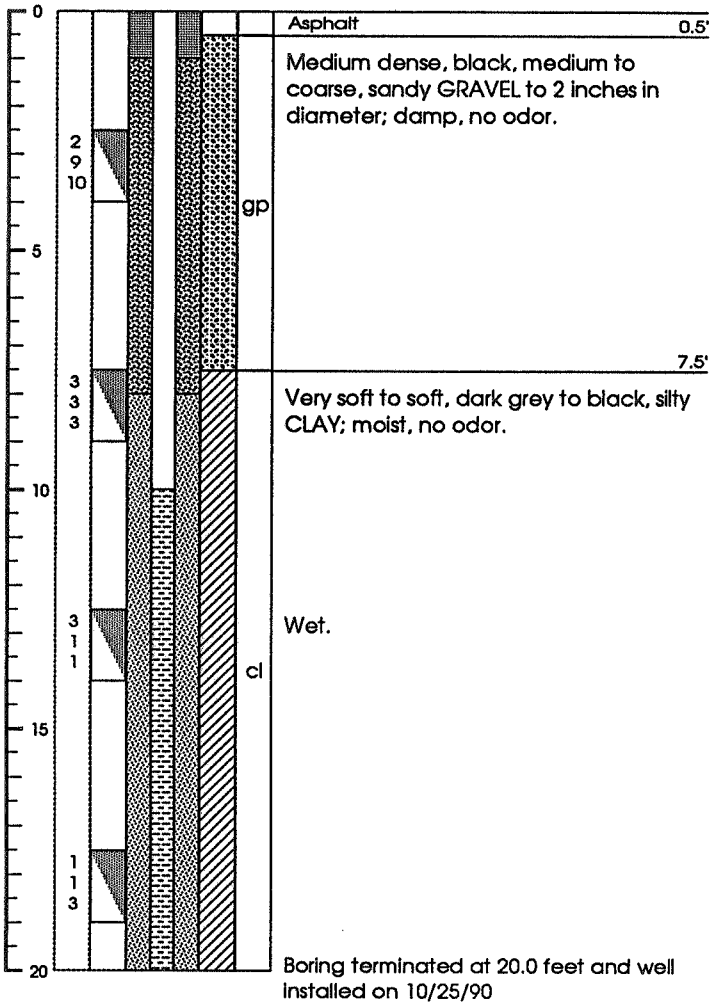
Client Name:	Alaska Marine Lines	Drilling Co.:	GeoBoring & Development, Inc.
Project Name:	7100 2ND Ave.	Drilling Method:	Hollow-Stem Auger
Logged By:	IMW		

Monitoring Well Construction and Geological Boring Log

MW - 1



MW - 2



Notes:

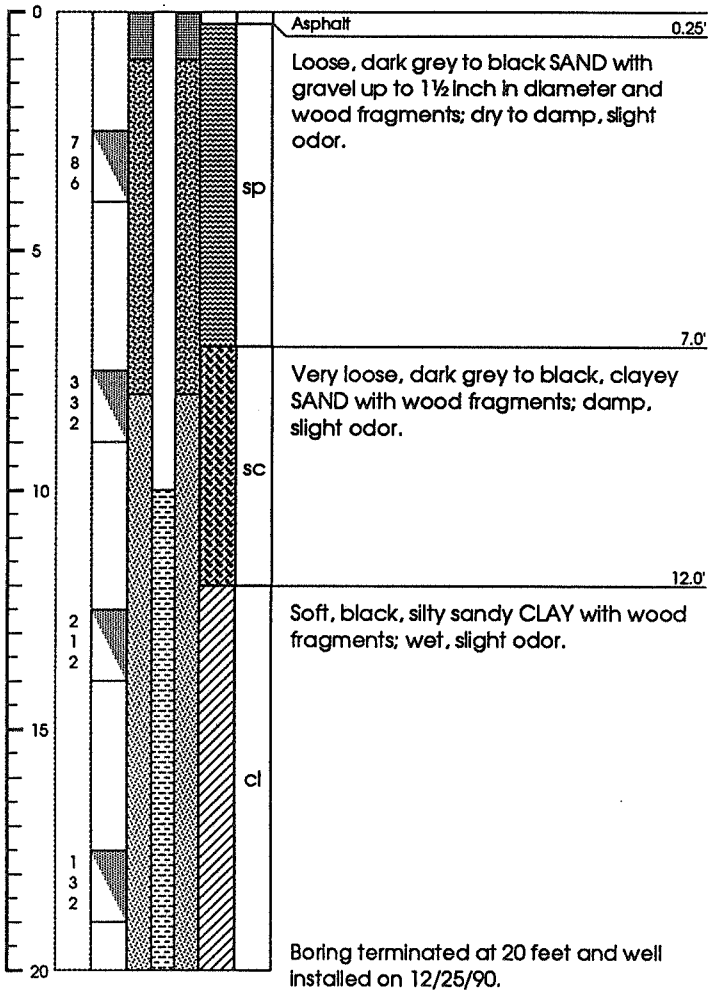
Client Name:	Alaska Marine Lines	Drilling Co.:	GeoBoring & Development, Inc.
Project Name:	7100 2ND Ave.	Drilling Method:	Hollow-Stem Auger
Logged By:	SW	Reference Elevation:	MW - 1 99.84'
			MW - 2 99.52'

Well Description

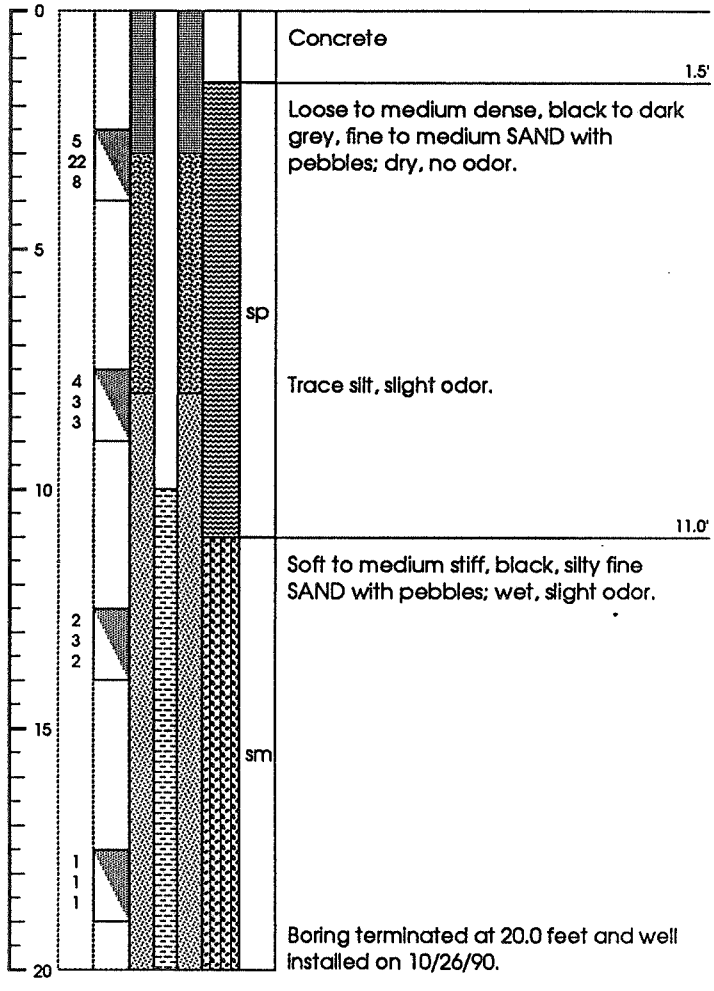
Surface Casing:	Flush Mounted	Filter Pack:	10 - 20 Silica Sand
Surface Seal:	Concrete	Seal:	Bentonite
Well Casing:	4" Sched. 40, PVC	Grout:	Concrete
Well Screen:	0.01" slots, Sched 40, PVC		

Monitoring Well Construction and Geological Boring Log

MW - 3



MW - 4



Notes:

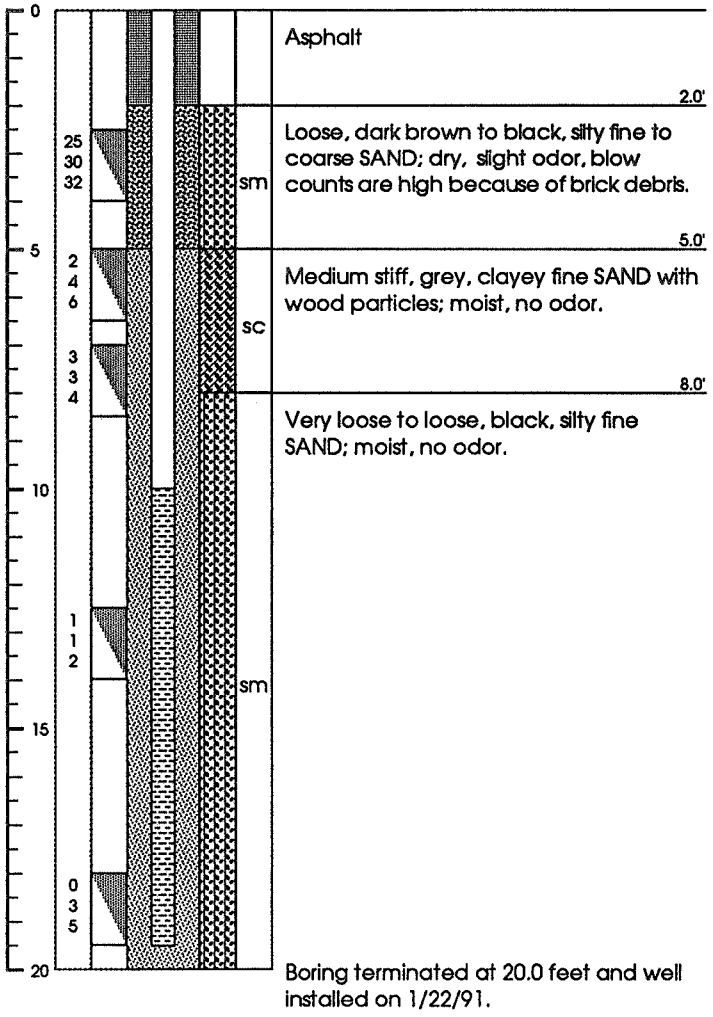
Client Name:	Alaska Marine Lines	Drilling Co.:	GeoBoring & Development, Inc.
Project Name:	7100 2ND Ave.	Drilling Method:	Hollow-Stem Auger
Logged By:	MAC	Reference Elevation:	MW - 3 99.71'
			MW - 4 99.42'

Well Description

Surface Casing:	Flush Mounted	Filter Pack:	10 - 20 Silica Sand
Surface Seal:	Concrete	Seal:	Bentonite
Well Casing:	4" Sched. 40, PVC	Grout:	Concrete
Well Screen:	0.01" slots, Sched 40, PVC		

Monitoring Well Construction and Geological Boring Log

MW - 5



Asphalt

2.0'

Loose, dark brown to black, silty fine to coarse SAND; dry, slight odor, blow counts are high because of brick debris.

5.0'

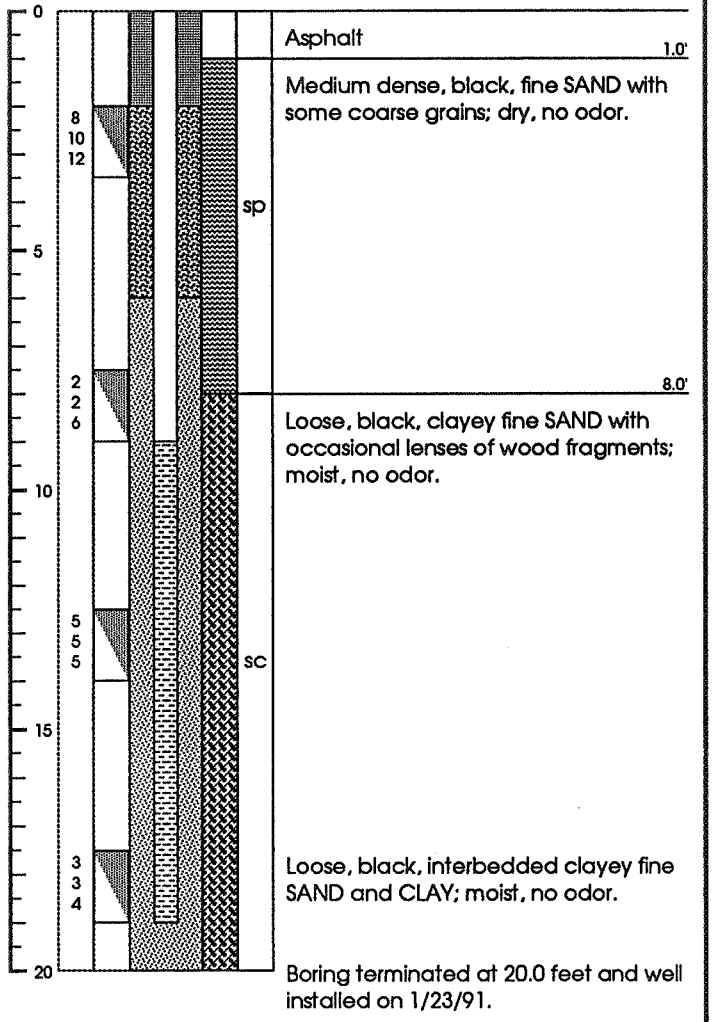
Medium stiff, grey, clayey fine SAND with wood particles; moist, no odor.

8.0'

Very loose to loose, black, silty fine SAND; moist, no odor.

Boring terminated at 20.0 feet and well installed on 1/22/91.

MW - 6



Asphalt

1.0'

Medium dense, black, fine SAND with some coarse grains; dry, no odor.

8.0'

Loose, black, clayey fine SAND with occasional lenses of wood fragments; moist, no odor.

Loose, black, interbedded clayey fine SAND and CLAY; moist, no odor.

Boring terminated at 20.0 feet and well installed on 1/23/91.

Notes:

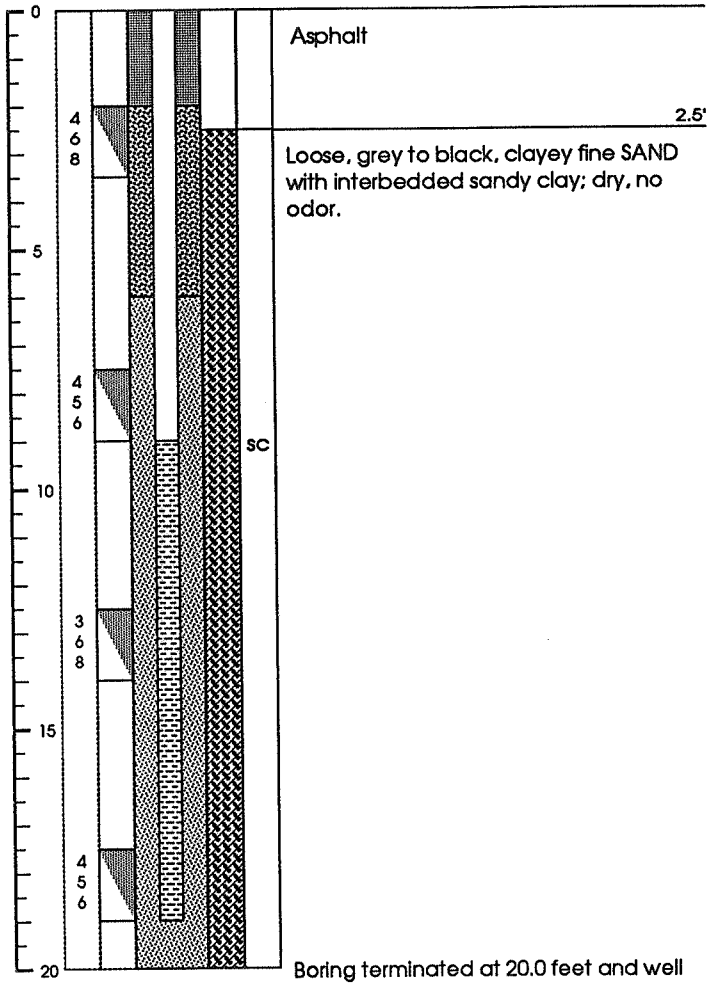
Client Name:	Alaska Marine Lines	Drilling Co.:	GeoBoring & Development, Inc.
Project Name:	7100 2 ND Ave.	Drilling Method:	Hollow-Stem Auger
Logged By:	IMW	Reference Elevation:	MW - 5 98.32'
			MW - 6 98.43'

Well Description

Surface Casing:	Flush Mounted	Filter Pack:	10 - 20 Silica Sand
Surface Seal:	Concrete	Seal:	Bentonite
Well Casing:	4" Sched. 40, PVC	Grout:	Concrete
Well Screen:	0.01" slots, Sched 40, PVC		

Monitoring Well Construction and Geological Boring Log

MW - 7

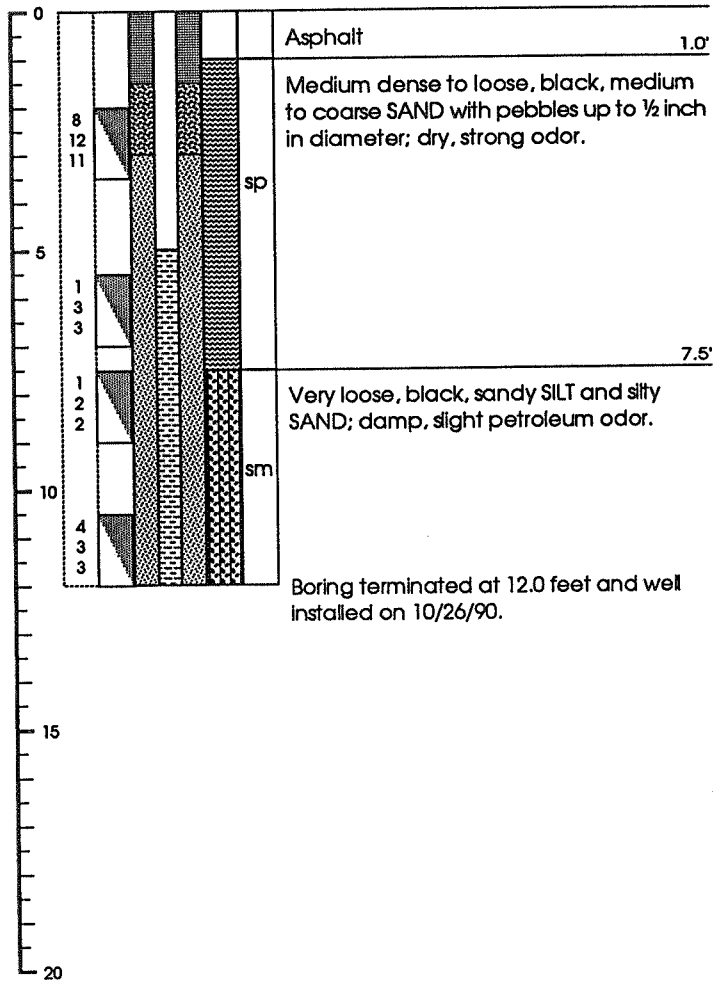


Asphalt — 2.5'

Loose, grey to black, clayey fine SAND with interbedded sandy clay; dry, no odor.

Boring terminated at 20.0 feet and well installed on 1/23/91.

SG - 1



Asphalt — 1.0'

Medium dense to loose, black, medium to coarse SAND with pebbles up to ½ inch in diameter; dry, strong odor. — 7.5'

Very loose, black, sandy SILT and silty SAND; damp, slight petroleum odor.

Boring terminated at 12.0 feet and well installed on 10/26/90.

Notes:

Client Name:	Alaska Marine Lines	Drilling Co.:	GeoBoring & Development, Inc.
Project Name:	7100 2 ND Ave.	Drilling Method:	Hollow-Stem Auger
Logged By:	IMW	Reference Elevation:	MW - 7 99.48'

Well Description

Surface Casing:	Flush Mounted	Filter Pack:	10 - 20 Silica Sand
Surface Seal:	Concrete	Seal:	Bentonite
Well Casing:	4" Sched. 40, PVC	Grout:	Concrete
Well Screen:	0.01" slots, Sched 40, PVC		

Monitoring Well: MW-8

Project: DMC
Client: Dept of Ecology
Location: Seattle, WA
Logged By: TMK

Date Started: 6/18/2008
Date Completed: 6/18/2008
Driller: Cascade Drilling, INC
Drill Method: Post Hole Dig and HSA

Total Boring Depth: 36.5 ft
Hole Diameter: 8.25 in.
Well Depth: 20 ft
TOC Elevation: ft

Well Diameter: 2 in
Well Screen: 0.010 Slot ft
Filter Pack: 2/12 Sand
Well Casing: Schedule 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION	WELL DIAGRAM
							0	6 inches ASPHALT. Post hole dig to 5 feet below ground surface.	
					SP-SM		1	(SP-SM) Brown fine to medium SAND with silt and ocassional gravel (Fill). Loose, no odor, slight sheen.	
							2		
							3		
							4		
Moist	0.0	6 14 15					5	(SM) Dark brown silty medium to coarse SAND with fine sand and gravel (Fill). Medium dense, no odor slight sheen.	
					SM		6		
							7		
							8		
							9		
Moist	0.0	1 1 2					10	(SM) Dark brown silty fine SAND (Fill). High silt content Loose, no odor, no sheen.	
					SM		11		
							12		
							13		
							14		
Moist	0.0	1 1 2					15	(SM) Black silty fine SAND (Fill). Very loose, no odor, no sheen.	
					SM		16		
							17		
							18		▼
							19		
							20		

Monitoring Well: MW-8

Project: DMC
Client: Dept of Ecology
Location: Seattle, WA
Logged By: TMK

Date Started: 6/18/2008
Date Completed: 6/18/2008
Driller: Cascade Drilling, INC
Drill Method: Post Hole Dig and HSA

Total Boring Depth: 36.5 ft
Hole Diameter: 8.25 in.
Well Depth: 20 ft
TOC Elevation: ft

Well Diameter: 2 in
Well Screen: 0.010 Slot ft
Filter Pack: 2/12 Sand
Well Casing: Schedule 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION	WELL DIAGRAM
Wet	0.0	2 2 2			SM		21	(SM) Black silty fine to medium SAND with shells (Fill). Loose, no odor, no sheen.	
							22		
							23		
							24		
Wet	0.0	1 3 4					25		
							26	(ML) Black SILT with trace fine sand and shells (Fill). Soft, no odor, no sheen.	
					ML		27		
							28		
							29		
Wet	5.0	2 2 2		MW-08-30			30	(ML) Black SILT with fine sand and ocassional medium to coarse sand and shells (Fill). Very soft, no odor, moderate sheen.	
					ML		31		
							32		
							33	(SM) Black silty fine to medium SAND (likely sluff from above), heaving sands. Very loose, slight odor, no sheen.	
					SM		34		
Wet	0.0	1 2 2					35		
							36		
							37	Bottom of borehole at 36.5 feet.	
							38		
							39		
							40		

Monitoring Well: MW-9

Project: DMC
Client: Dept of Ecology
Location: Seattle, WA
Logged By: TMK

Date Started: 6/18/2008
Date Completed: 6/18/2008
Driller: Cascade Drilling, INC
Drill Method: Post Hole Dig and HSA

Total Boring Depth: 21.5 ft
Hole Diameter: 8.25 in.
Well Depth: 20 ft
TOC Elevation: ft

Well Diameter: 2 in
Well Screen: 0.010 Slot ft
Filter Pack: 2/12 Sand
Well Casing: Schedule 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION	WELL DIAGRAM
							0	3 iinches ASPHALT. Post hole dig to 4 feet below ground surface.	
Moist	0.0	2 3 3			SM		4	(SM) Tan silty SAND with with gravel (suspect shore stabilization grouting) (Fill). Very dense, no odor, no sheen.	
Moist	0.0	6 9 10			GP-GM		9	(GP-GM) Brown sandy GRAVEL with silt and ocassional cobbles and concrete (Fill). Medium dense, no odor, no sheen.	
Moist	0.0	1 3 3		MW-9-15	ML		13	(ML) Dark brown SILT with organics and trace fine sand. (Fill?). Medium stiff, no odor, no sheen.	
Wet	2.1	2 3 4					18	Same as above.	
							21	Bottom of borehole at 21.5 feet.	

Monitoring Well: MW-10

Project: DMC
Client: Dept of Ecology
Location: Seattle, WA
Logged By: TMK

Date Started: 6/18/2008
Date Completed: 6/18/2008
Driller: Cascade Drilling, INC
Drill Method: Post Hole Dig and HSA

Total Boring Depth: 21.5 ft
Hole Diameter: 8.25 in.
Well Depth: 20 ft
TOC Elevation: ft

Well Diameter: 2 in
Well Screen: 0.010 Slot ft
Filter Pack: 2/12 Sand
Well Casing: Schedule 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION	WELL DIAGRAM
Moist	0.0				GM		1	7 inches ASPHALT. Post hole dig to 5 feet below ground surface. (GM) Brown sandy GRAVEL with silt (Base coarse-Fill). Very dense, no odor, no sheen.	
Moist	0.0	1 2 50			ML		5	(ML) Gray-white SILT with ocassional fine gravel and sand (Fill). Hard, no odor, slight sheen.	
Moist	0.0	8 22 23			GP		10	(GP) Tan-gray sandy GRAVEL with silt (Fill?). Very dense, no odor, no sheen.	
Wet	0.0	3 1 1			ML		15	(ML) Black SILT with ocassional gravel and trace organics (Fill?). Very soft, musty odor, no sheen.	
Wet	6.0	2 2 1		MW-10-20	ML		20	(ML) Same as above.	
							22	Bottom of borehole at 21.5 feet.	

Monitoring Well: MW-11

Project: DMC
Client: Dept of Ecology
Location: Seattle, WA
Logged By: TMK

Date Started: 6/19/2008
Date Completed: 6/19/2008
Driller: Cascade Drilling, INC
Drill Method: Post Hole Dig and HSA

Total Boring Depth: 21.5 ft
Hole Diameter: 8.25 in.
Well Depth: 20 ft
TOC Elevation: ft

Well Diameter: 2 in
Well Screen: 0.010 Slot ft
Filter Pack: 2/12 Sand
Well Casing: Schedule 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	U.S.C.S. SYMBOL	DEPTH (ft)	LITHOLOGY/DESCRIPTION
						1	3 inches ASPHALT. Post hole dig to 5 feet below ground surface.
							8 inches CONCRETE.
						2	
						3	
						4	2 inch root in boring at approximately 5 feet below ground surface.
Moist	0.01	4 3 2			SM	5	(SM) Brown silty fine to medium SAND with coarse sand and ocassional gravel (Fill). Loose, no odor, slight sheen.
						6	
					ML	7	(ML) Light brown fine sandy SILT with trace large gravel (Fill). Soft, no odor, slight sheen.
						8	
						9	
Moist	0.03	4 4 4				10	Same as above.
						11	(SP) Brown medium SAND with trace silt (Fill?). Loose, no odor, slight sheen.
					SP	12	
						13	
						14	
Wet	0.01/0.02	1 1 1		MW-11-15		15	Same as above. Grades to wet.
						16	(SM) Dark brown to black silty fine SAND (Fill?). Very loose, no odor, no sheen.
						17	
					SM	18	
						19	
Wet	0.04	1 1 1				20	
					SM	21	(SM) Black silty fine SAND with trace organics (Fill?). Very loose, no odor, no sheen.
						22	Bottom of borehole at 21.5 feet.
						23	
						24	
						25	

WELL DIAGRAM

Monitoring Well: MW-12

Project: DMC
Client: Dept of Ecology
Location: Seattle, WA
Logged By: TMK

Date Started: 6/19/2008
Date Completed: 6/19/2008
Driller: Cascade Drilling, INC
Drill Method: Post Hole Dig and HSA

Total Boring Depth: 36.5 ft
Hole Diameter: 8.25 in.
Well Depth: 20 ft
TOC Elevation: ft

Well Diameter: 2 in
Well Screen: 0.010 slot ft
Filter Pack: 2/12 Sand
Well Casing: Schedule 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION	WELL DIAGRAM
								12 inches ASPHALT. Post hole dig to 4 feet below ground surface.	
Moist	3.7				GP		1	(GP) Gray-brown fine to coarse sandy GRAVEL with silt (Likely UST fill). Dense, no odor, slight sheen.	
							2		
							3		
Moist	2.5	50					4	(GP) Same as above. Grades to very dense. Likely UST fill. Very little recovery.	
					GP		5		
							6		
							7		
							8		
							9		
Moist	3.6	5 4 5					10	(GP) Same as above. Valid sample questionable, based on blow count comparison from above. Likely UST fill. Very little recovery. Possible beginning transition into different soil content.	
					GP		11		
							12		
							13		
							14		
Wet	28.6/2.1	2 2 1		MW-12-15	SM		15	(SM) Brown silty fine to coarse SAND with ocassional gravel (Fill). Loose, slight odor, slight sheen. Very little portion of sample to collect.	▼
							16	Black silty fine SAND (Fill?). Very loose, no odor, no sheen.	
							17		
							18		
							19		
							20		

Monitoring Well: MW-12

Project: DMC
Client: Dept of Ecology
Location: Seattle, WA
Logged By: TMK

Date Started: 6/19/2008
Date Completed: 6/19/2008
Driller: Cascade Drilling, INC
Drill Method: Post Hole Dig and HSA

Total Boring Depth: 36.5 ft
Hole Diameter: 8.25 in.
Well Depth: 20 ft
TOC Elevation: ft

Well Diameter: 2 in
Well Screen: 0.010 slot ft
Filter Pack: 2/12 Sand
Well Casing: Schedule 40 PVC

MOISTURE CONTENT	ORGANIC VAPOR (ppm)	BLOWS/6"	SAMP. INTERVAL	ANALYTICAL SAMPLE	U.S.C.S. SYMBOL	GRAPHIC LOG	DEPTH (ft)	LITHOLOGY/DESCRIPTION	WELL DIAGRAM
Wet	1.1	2 2 2			SM		21	(SM) Same as above.	
							22		
							23		
							24		
Wet	13.2	1 1 2		MW-12-25	SM		25	(SM) Black silty fine to medium SAND with organics (Native?). Loose, slight odor, moderate sheen.	
							26		
							27		
							28		
							29		
Wet	3.3	4 5 6			SP-SM		30	(SP-SM) Black fine to medium SAND with silt. Medium dense, no odor, slight sheen.	
							31		
							32		
							33		
							34		
Wet	3.6	6 28 50			SP-SM		35	(SP-SM) Same as above.	
							36		
							37	Bottom of borehole at 36.5 feet.	
							38		
							39		
							40		

APPENDIX D
Hydrogeologic Testing

APPENDIX D
HYDROGEOLOGIC TESTING

Tidal Study

The purpose of the tidal study was to evaluate the influence of Lower Duwamish Waterway (LDW) water level fluctuations on groundwater conditions at the Property and to evaluate contaminant fate and transport in groundwater. Water level fluctuations in the LDW in the vicinity of the Property are due to tidal fluctuations within Puget Sound. Specifically, the tidal study was conducted to achieve the following objectives:

- To identify and analyze the extent, if any, of tidal response that may reflect such variables as:
  - Aquifer in which wells are completed.
  - Confined/unconfined conditions (i.e., wells exhibiting unconfined water-table responses versus wells exhibiting confined or leaky-confined aquifer responses).
- To provide a better understanding of measured groundwater levels, groundwater gradients, and their relative degree of variation under tidal influence at the site.
- To estimate values for aquifer apparent hydraulic diffusivity and transmissivity (T). The estimated values were combined with other information to estimate average hydraulic conductivity (K).

Existing monitoring wells MW-5, MW-9, MW-11 and MW-12, and new monitoring wells MW-13 and MW-16 were used as representative indicators of the groundwater response at the Property.

River Level Fluctuations

Puget Sound experiences daily tides that feature complex double highs and lows of uneven magnitude during each full tidal cycle. This pattern is caused by dominant diurnal and semidiurnal lunar/solar cycles that combine to create what is known as a mixed tide (also called a bichromatic tide). This pattern features a continuously changing pattern of primarily high and low tides, with smaller secondary high and low tides mixed in the cycle through each month. The pattern strongly affects the surface water level of the LDW in the vicinity of the Property due to proximity to Puget Sound. A portion of the monthly pattern can be seen in the measured tidal data collected for this study from the water-level sensor installed in the LDW (Figures D-1a through D-12a).

An additional potential source of river level fluctuation is response to varying precipitation or snowmelt. Records of the surface water level of the Green (Duwamish) River at Auburn, Washington (United States Geological Survey [USGS] monitoring station number 12113000) were reviewed to evaluate if this potentially confounding variable needed to be taken into account during the tidal study. During the tidal study, the water level of the Green River at the upgradient station changed by approximately 0.10 feet over a three day period, due to factors other than tides (i.e., presumably due to varying precipitation or snowmelt as this gauging station is not affected by tides according to the USGS). Given that the fluctuations observed in the LDW adjacent to the Site at the time of the study was on the order of 13 feet, and that these changes typically took place over periods of hours, it can be assumed that the observed river level fluctuations during the study were largely attributed to tidal fluctuations of Puget Sound.

Data Collection Procedures and Methodology

Aquifers that are hydraulically connected to tidal surface waters typically show a progressively attenuated and delayed tidal response with increasing distance from the shoreline. In order to evaluate tidal-groundwater hydraulic connection at the Property, six monitoring wells were selected to provide a representative hydrogeologic cross-section. The selected wells included MW-5, MW-9, MW-11, MW-12, MW-13, and MW-16. Each of the tidal study wells was equipped with a water-level sensor consisting of a piezoelectric pressure transducer and automated datalogger (transducer/datalogger) programmed to record water pressure (head) above the sensor every minute over a period of 14 days from August 8 through 22, 2014, with the exception of MW-16, which was monitored over a period of 7 days from August 14 through August 21, 2014.

The following data collection field procedures were followed for the tidal study:

- Prior to installation, the transducer/datalogger was programmed to record pressure head at every minute. Programming was performed using one computer only and time-synced to the clock on that computer.
- As a check on the transducer/datalogger, and to account for instrument drift, the water level was measured at the beginning and end of the tidal study using a decontaminated electronic water level indicator ("e-tape"). All measurements were made from a surveyed reference mark on the top of each well casing.
- One transducer/logger was installed as a tidal gauge and secured to a dock at the Site to directly measure the river level of the LDW, and one sensor was installed in a cargo container at the Property to record the barometric pressure. The cargo container was vented to the atmosphere (i.e., not air tight).
- All materials were decontaminated prior to use. Decontamination procedures are presented in Appendix C.

At the conclusion of the study, each of the sensors were removed from the wells and data downloaded for post-processing.

Tidal Influence on Groundwater Levels

The groundwater level data collected in each of the tidal study wells were reduced to the North American Vertical Datum 1988 (NAVD-88) and plotted along with the water level in the LDW for comparison of groundwater elevation and tidal trends during the study period. These comparative plots are shown on Figures D-1a through D-12a over the full period of the tidal study. A comparison of these data indicate that a correlation between the change in river level to the groundwater level in monitoring wells MW-9, MW-12, MW-13, and MW-16 (see Figures D-1a through D-4a) while monitoring wells MW-5 and MW-11 exhibited little to no response to the observed tidal changes in the LDW (see Figures D-5a and D-6a).

Ferris Tidal Analysis

The groundwater level data for monitoring wells MW-5, MW-9, MW-11, MW-12, MW-13, and MW-16 were further evaluated using the Ferris method (Ferris 1951) to obtain a match with the LDW tide data. A double transformation that varies the time lag (the time for propagation of the tidal effect through the aquifer from the river to the well) and the stage ratio (the relative degree of effect tidal changes in the river had on groundwater at the well during the study period) was applied. Lag time and stage ratio were visually estimated using the following procedure:

- **Time Lag**: Lag time was determined by shifting the Date/Time scale (x-axis) of the groundwater record backwards relative to the tidal record from the LDW River until the respective peaks and troughs matched. The value of time (in hours and minutes) indicated on the secondary axis represents the time lag or phase shift.
- **Stage Ratio:** Stage ratio was determined by expanding and shifting the elevation scale (y-axis) of the groundwater plot relative to the tidal plot from the LDW River, until the respective amplitudes matched. The value of stage ratio is calculated as the ratio of secondary axis length (in feet), divided by the primary axis length (16 feet) and expressed as a percentage.

The time lag and stage ratio for each well was determined over a period of two tidal cycles during the study. The results of this analysis are shown on Figures D-1b through D-6b. The data for tidally influenced wells are summarized in the following table and are organized by shortest to longest time lag in hours.

TIME LAG AND STAGE RATIO RESULTS

Monitoring Well	Distance from Shoreline (ft)	Mean Groundwater Elevation (ft; NAVD88)	Time Lag (hours)	Stage Ratio (%)
MW-9	30	6.29	0.82	86
MW-13	35	6.16	0.83	19
MW-12	100	6.00	3.1	3
MW-16	150	6.37	8.4	3

Serfes Tidal Analysis

Using the groundwater level data, the average water level for each well during the tidal study was calculated by using the Serfes method (Serfes 1991) to calculate the average groundwater gradient at the Property for the duration of the tidal study. These comparative plots are shown on figures D-7b through D-12b over the full period of the tidal study.

The tidally-influenced wells show a marked tidal influence that reflects the mixed tide cycle measured in the LDW. Mean groundwater elevations for a selected 72-hour portion of the hourly tide cycle data were calculated using the Serfes method (Serfes 1991) which gives the mean of a subset of 25-point moving averages (Y_j) calculated from 48 24-point moving averages (X_i). The results indicate the degree of tidal influence in the aquifer is not proportional to distance from shoreline, indicating heterogeneity in the deposits and fill materials comprising the shallow aquifer.

Estimation of Hydraulic Parameter

The time lag and stage ratio data from the tidal study (described above) were further analyzed to estimate diffusivity of the aquifer. A method originally developed by Ferris was used, whereby time lag and stage ratio is plotted against the horizontal distance between the well and the shoreline (Figures D-13a and D-13b). Both plots (time lag and stage ratio) showed good correlation among the data for the wells, with trends of increasing time lag and decreasing stage ratio with greater distance from the shoreline.

The slopes of the trend lines shown in Figure D-33 are directly proportional to the apparent hydraulic diffusivity of the aquifer, with diffusivity being the ratio of transmissivity to storativity (T/S):

- Aquifer diffusivity based on time lag: 9.60 x 10^4 gallons per day per foot (gpd/ft)
- Aquifer diffusivity based on stage ratio: 3.79 x 10^4 gpd/ft

The calculations above are predicated on the validity of the Ferris method (Ferris 1951) and the presumed dominance of the diurnal tidal effect, with a period of just under 24 hours, representing the main lunar-solar diurnal tide component in the Puget Sound.

In order to calculate the transmissivity for the deep aquifer using the above hydraulic diffusivity values, the following two key assumptions were made:

- The average thickness for the aquifer is assumed to be 50 feet. This value is estimated based on available literature and observations at the Site.
- The aquifer storativity is 0.1. The storativity value of 0.1 was assumed because this is considered an average value for unconfined aquifers.

Assuming a storativity value of 0.1 for the aquifer, the transmissivity of the aquifer is between 1,283 and 507 feet per day (ft/day) (or between 9,595 and 3,791 gallons per day per square foot [gpd/ft^2]). Assuming an average thickness of 50 feet for the deep aquifer, the average hydraulic conductivity (K) for the deep aquifer is estimated to be between 10 and 26 ft/day (or between 76 and 192 gpd/ft^2)[5].

Slug Testing

Slug testing was performed on selected wells at the Property on August 14, 2014. The purpose of the slug testing was to use the data, in combination with the tidal study data, to estimate hydraulic conductivity (K) within the aquifer in the vicinity of the tested wells.

Slug testing was performed on three monitoring wells (MW-2A, MW-14, and MW-16). Field procedures, as well as the procedure for data analysis from the slug testing are described below. Plots of the slug tests are presented in Figures D-14 through D-16.

Field Procedures

Each slug test was performed in two stages, a falling head stage followed by a rising head stage. For each test, the water level in the well was measured and recorded at 0.25-second intervals using a decontaminated submerged water-level sensor consisting of a piezoelectric pressure transducer and automated datalogger (transducer/datalogger) programmed to record water pressure (head) above the sensor. The water level was also measured using a decontaminated electronic water level indicator ("e-tape") to verify the transducer/datalogger measurement.

Prior to slug testing, the pre-test static water level was measured in each well from a surveyed reference mark on top of the well casing. For the falling head stage, a slug (weighted 5-foot length of sealed polyvinyl chloride [PVC] casing) of known volume was rapidly lowered into the well, causing displacement of the water, which rose rapidly above its initial level. The water level in the well was then monitored until it returned (fell) to the approximate pre-test water level. For the rising-head stage, the slug was rapidly removed from the well, causing the water level to drop below its pre-test static level, and the water level in the well was monitored until it returned (rose) to the approximate pre-test static water level.

[5] Note: these calculations are directly dependent on the assumed values for aquifer storativity and thickness.

Data Analysis

Both falling head stage and rising-head stage data can be used only in wells where the screened interval is under the water table during all portions of the test. In wells where the screened interval is above the water table, only the rising-head stage data is used, because some of water displaced during the falling head stage portion of the test can drain into the unsaturated zone above the water table. Because each of the monitoring wells evaluated had screened intervals above the water table, only the rising head data were analyzed.

The data from all slug tests were downloaded from the transducer/datalogger, processed using spreadsheet software, and then plotted to identify the type of hydraulic response. In moderate to low-permeability soils, the recovery of the water level back to its pre-test static level is typically in the form of a monotonic trend, as shown for example in well MW-2A (Figure D-14). This type of hydraulic response has been classified as "over-damped" in the technical literature (Butler 1998). Data from the wells that were slug tested exhibited this type of response and were analyzed using the Bouwer and Rice method (Bouwer and Rice 1976).

The hydraulic conductivity (K) values for the three wells slug tested were between 0.97 and 1.5 ft/day and were calculated based on aquifer thickness and the slope of the fitted lines shown on Figures D-14 through D-16. Aquifer thicknesses at each location were based on stratigraphy observed during drilling, as recorded on exploration logs (see Appendix C). Slug tests data were analyzed assuming unconfined conditions because the shallow aquifer is well documented to be unconfined.

Figure D-1a: MW-9 and Lower Duwamish Waterway Hydrograph

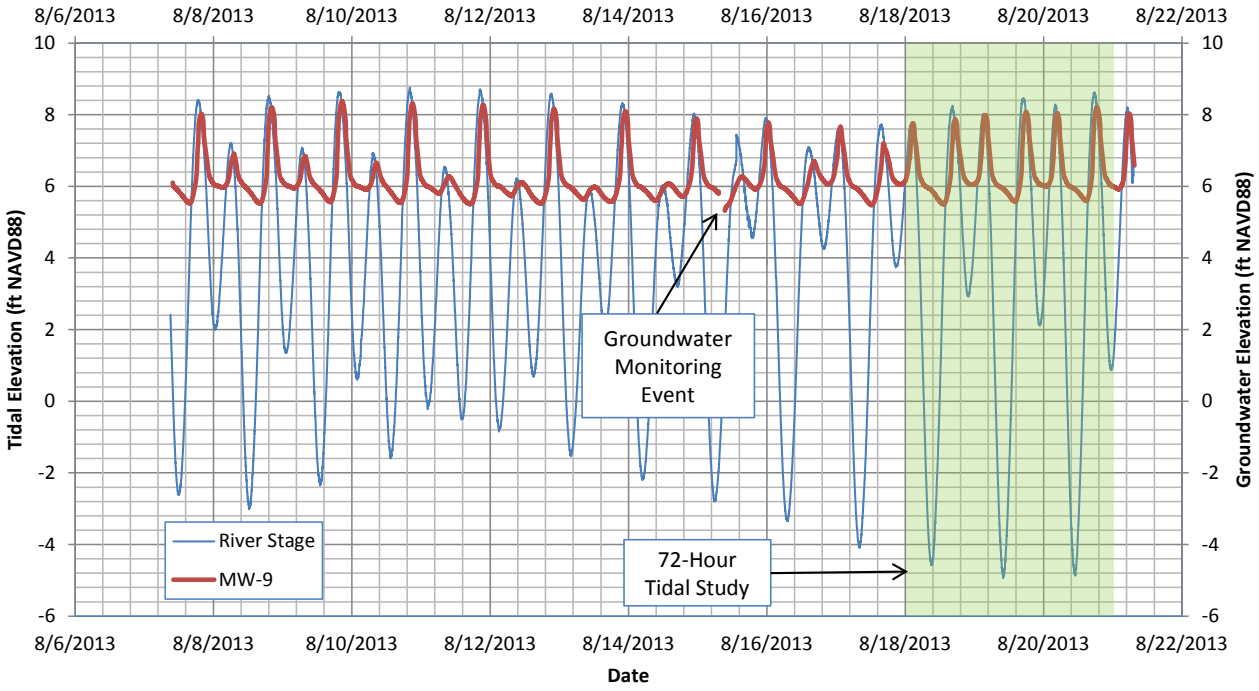
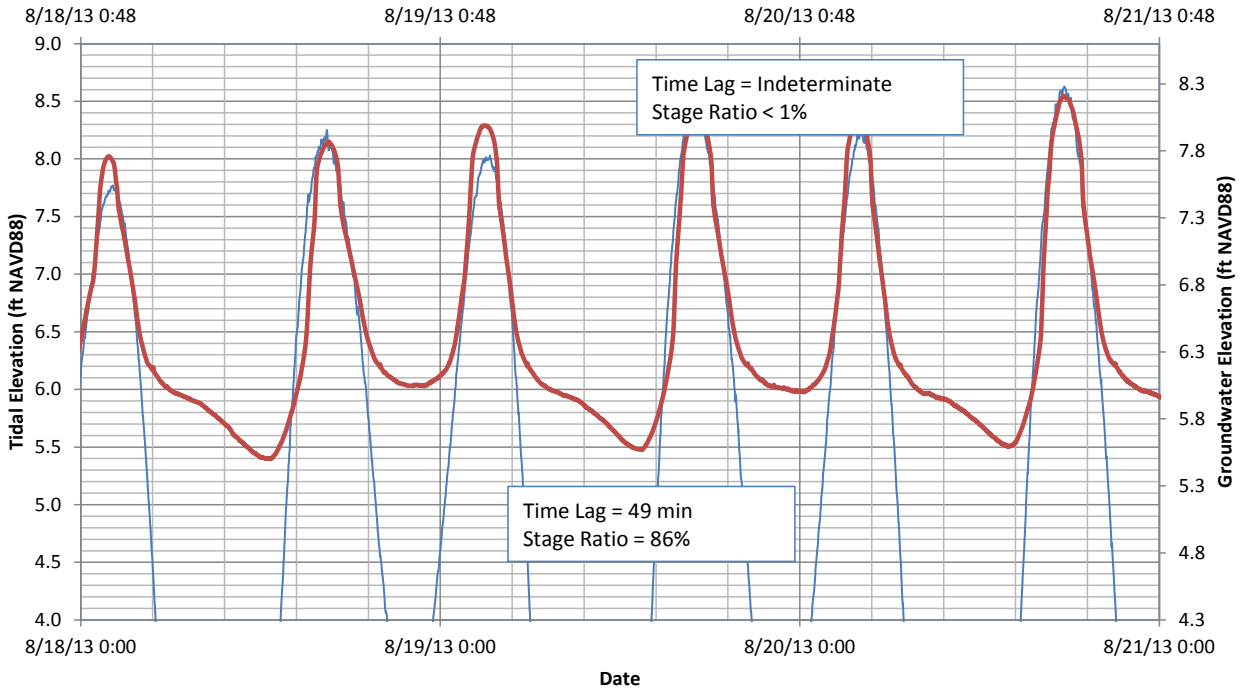


Figure D-1b: Ferris Tidal Analysis of MW-9



Notes

1. Distance to shoreline: feet
2. Ferris method (Ferris, 1951) used to determine the time lag and stage ratio at the monitoring wells.

Reference: Tidal analysis performed by GeoEngineers. August 2014

Ferris Tidal Analysis – MW-09	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-1

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Figure D-2a: MW-13 and Lower Duwamish Waterway Hydrograph

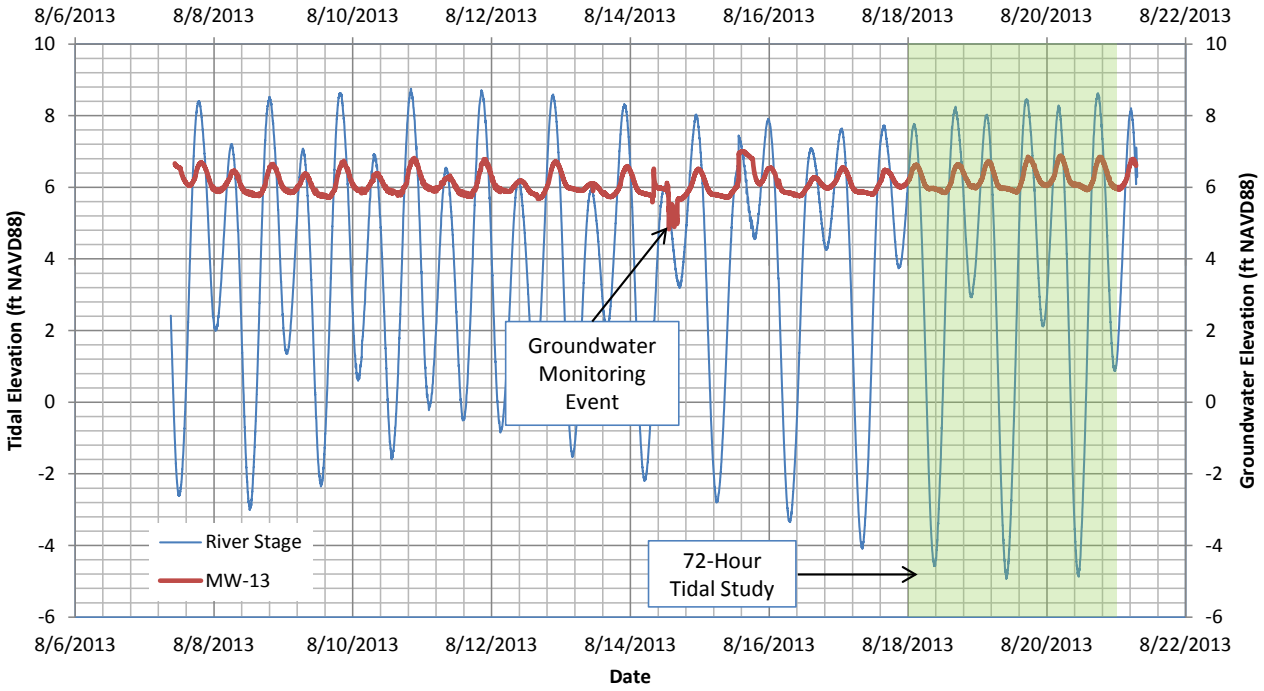
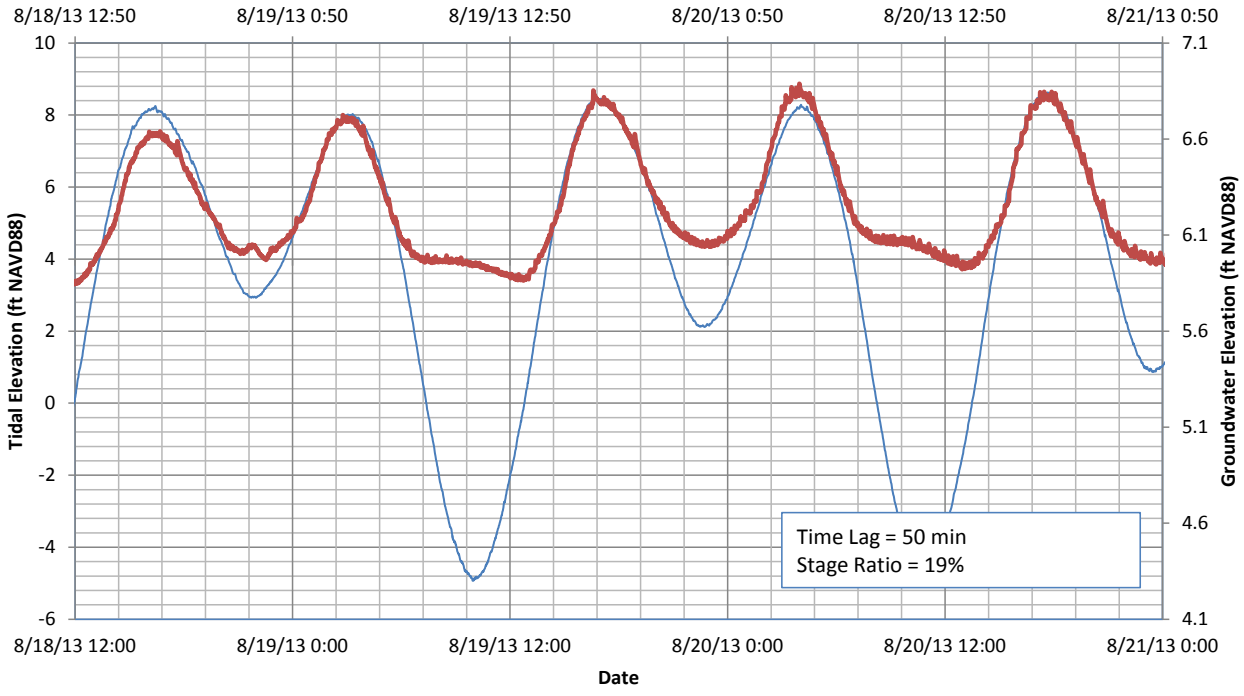


Figure D-2b: Ferris Tidal Analysis of MW-13



Notes

1. Distance to shoreline: feet
2. Ferris method (Ferris, 1951) used to determine the time lag and stage ratio at the monitoring wells.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Ferris Tidal Analysis – MW-13	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-2

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Figure D-3a: MW-12 and Lower Duwamish Waterway Hydrograph

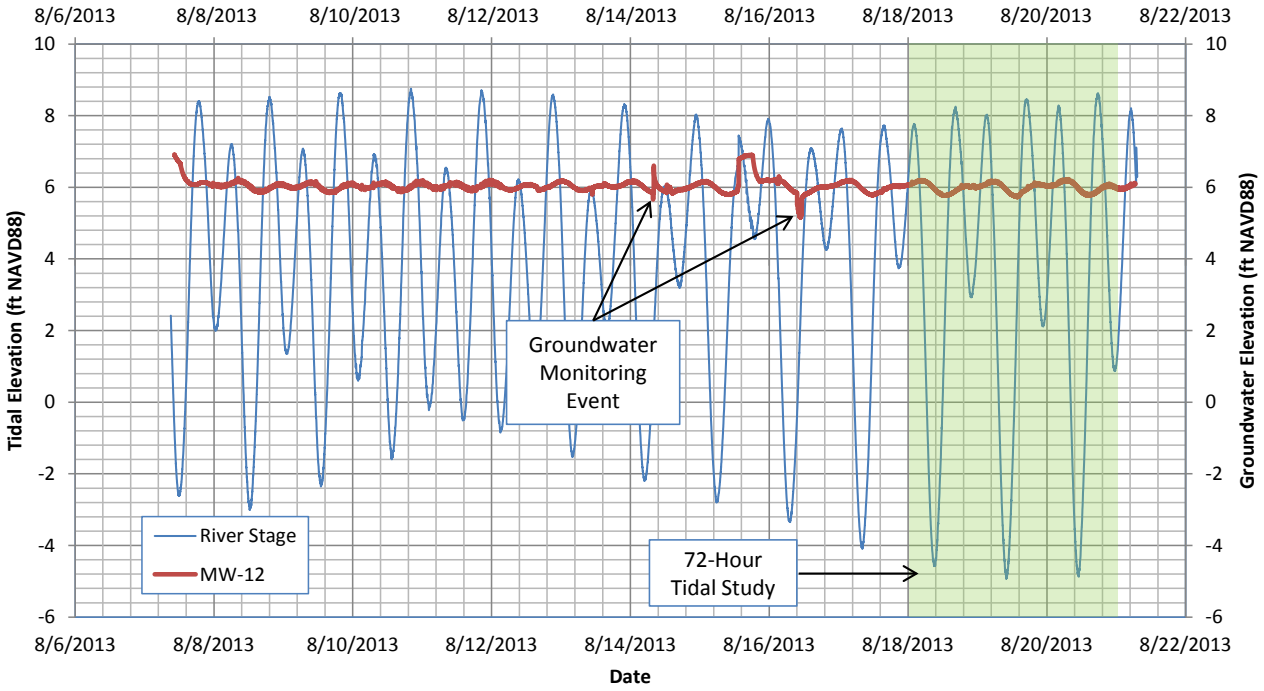
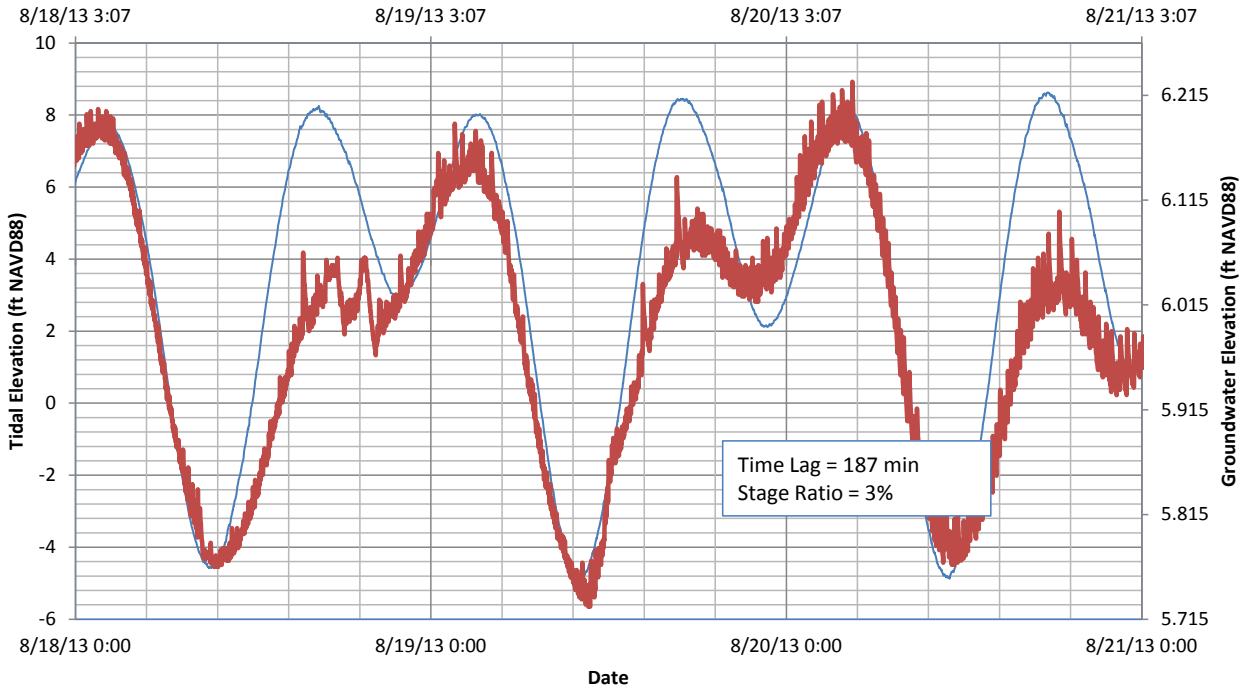


Figure D-3b: Ferris Tidal Analysis of MW-12



Notes

1. Distance to shoreline: feet
2. Ferris method (Ferris, 1951) used to determine the time lag and stage ratio at the monitoring wells.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Ferris Tidal Analysis – MW-12	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-3

Figure D-4a: MW-16 and Lower Duwamish Waterway Hydrograph

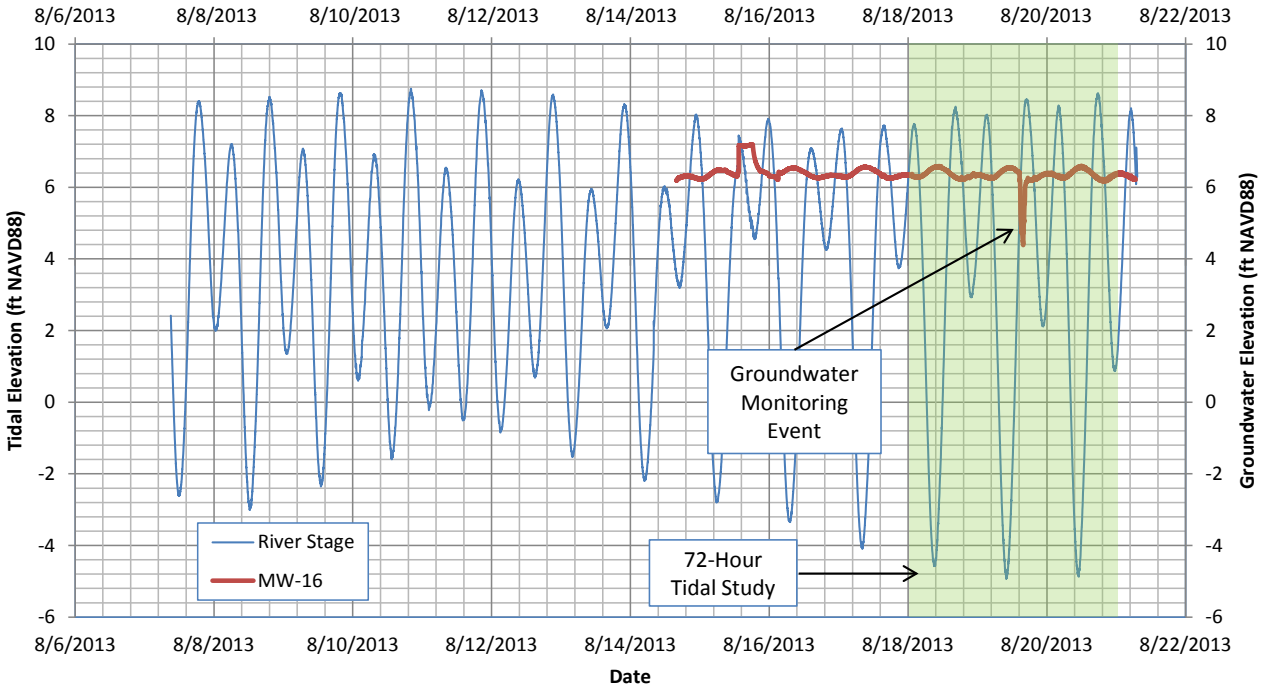
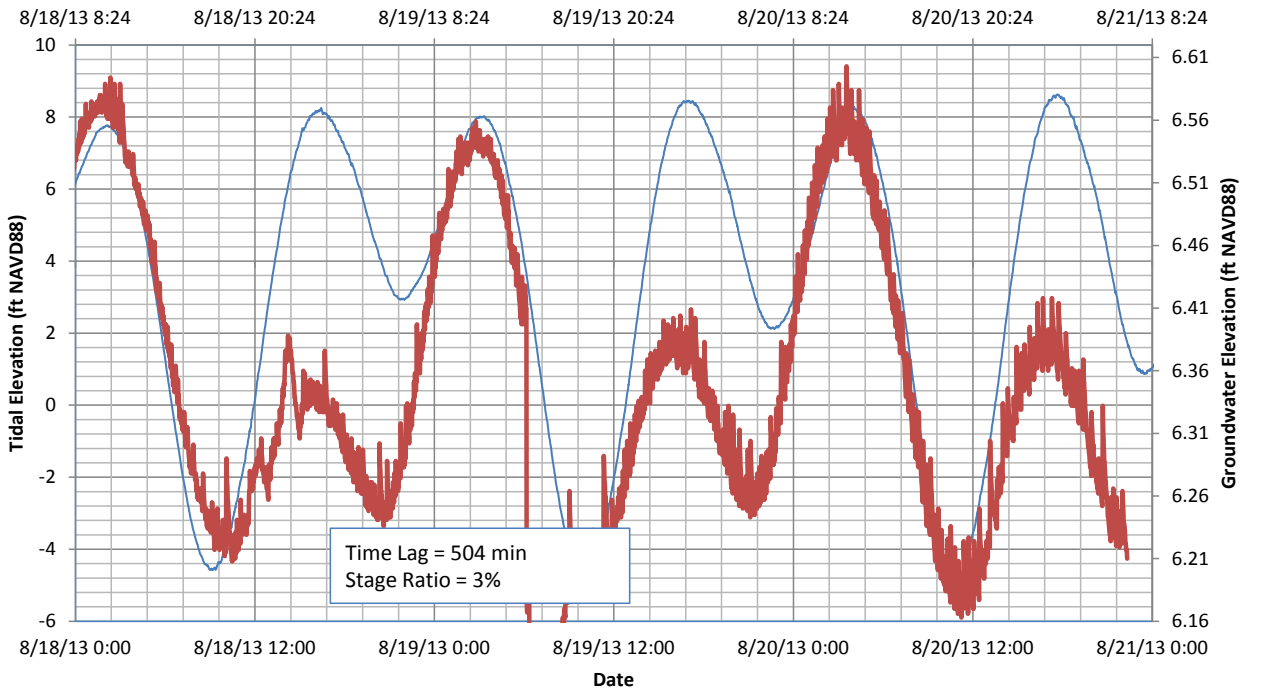


Figure D-4b: Ferris Tidal Analysis of MW-16



Notes

1. Distance to shoreline: feet
2. Ferris method (Ferris, 1951) used to determine the time lag and stage ratio at the monitoring wells.

Reference: Tidal analysis performed by GeoEngineers. August, 2014.

Ferris Tidal Analysis – MW-16	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-4

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Figure D-5a: MW-11 and Lower Duwamish Waterway Hydrograph

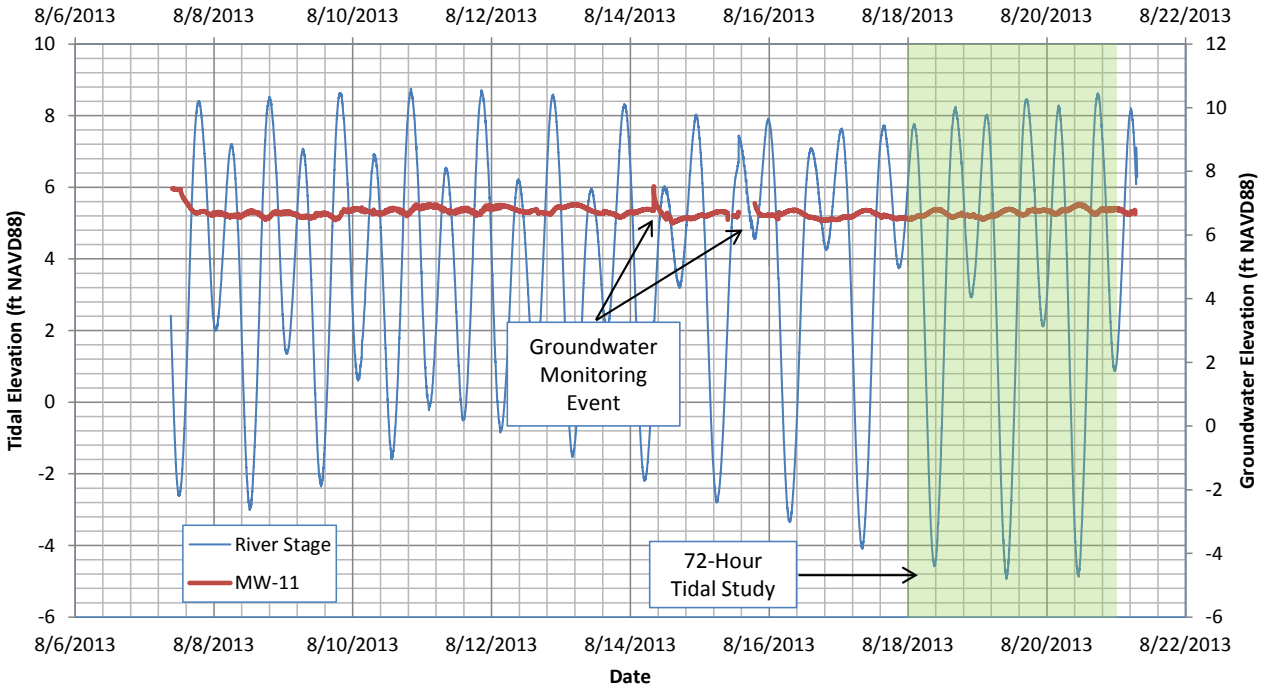
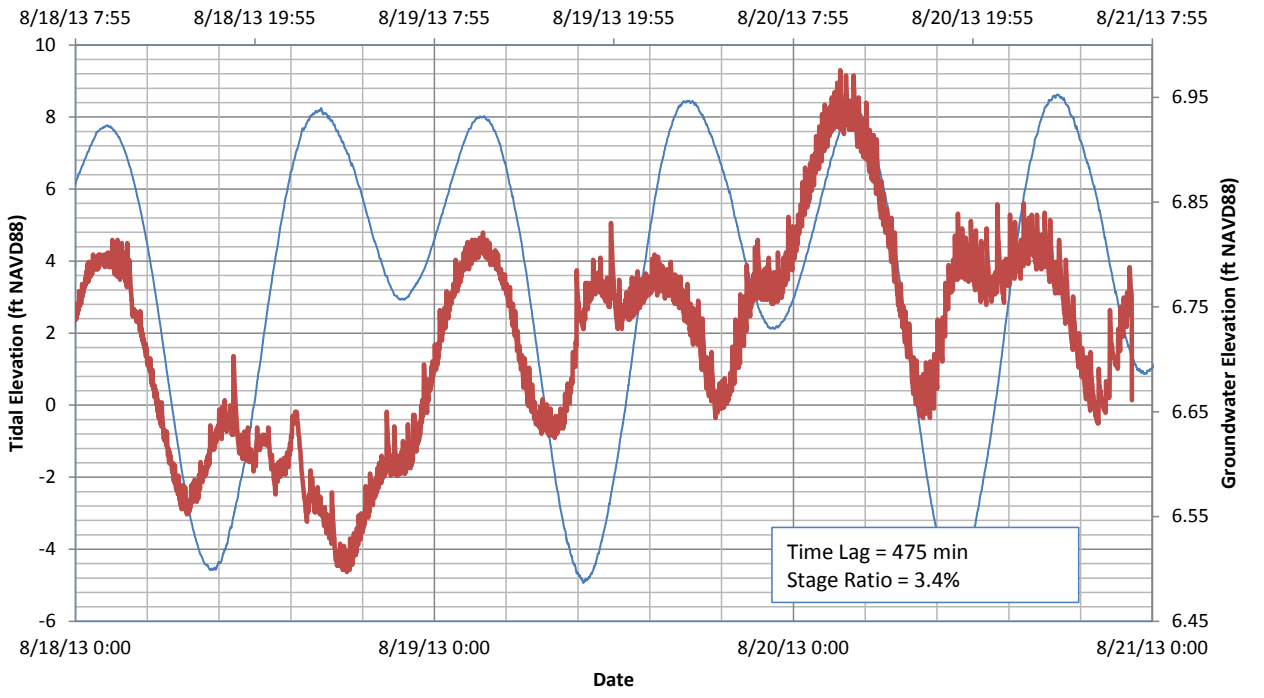


Figure D-5b: Ferris Tidal Analysis of MW-11



Notes

1. Distance to shoreline: feet
2. Ferris method (Ferris, 1951) used to determine the time lag and stage ratio at the monitoring wells.

Reference: Tidal analysis performed by GeoEngineers. August, 2014.

Ferris Tidal Analysis – MW-11	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-5

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Figure D-6a: MW-5 and Lower Duwamish Waterway Hydrograph

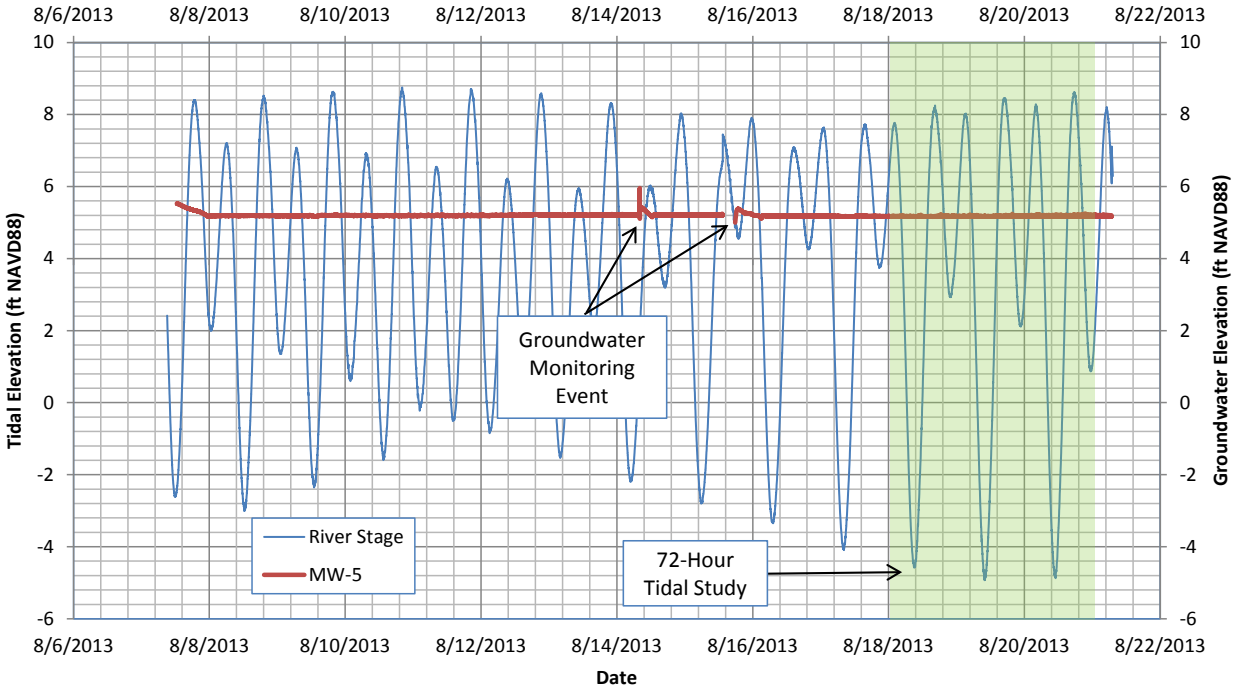
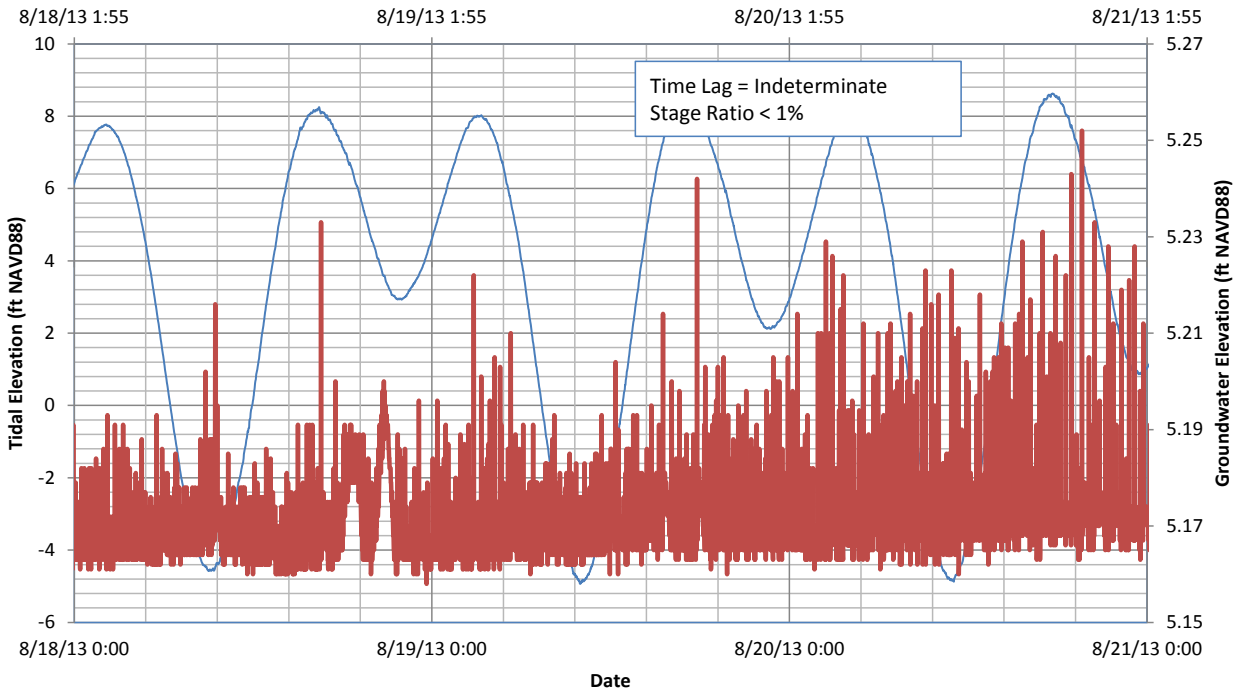


Figure D-6b: Ferris Tidal Analysis of MW-5



Notes

1. Distance to shoreline: feet
2. Ferris method (Ferris, 1951) used to determine the time lag and stage ratio at the monitoring wells.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Ferris Tidal Analysis – MW-05	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-6

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Figure D-7a: MW-9 and Lower Duwamish Waterway Hydrograph

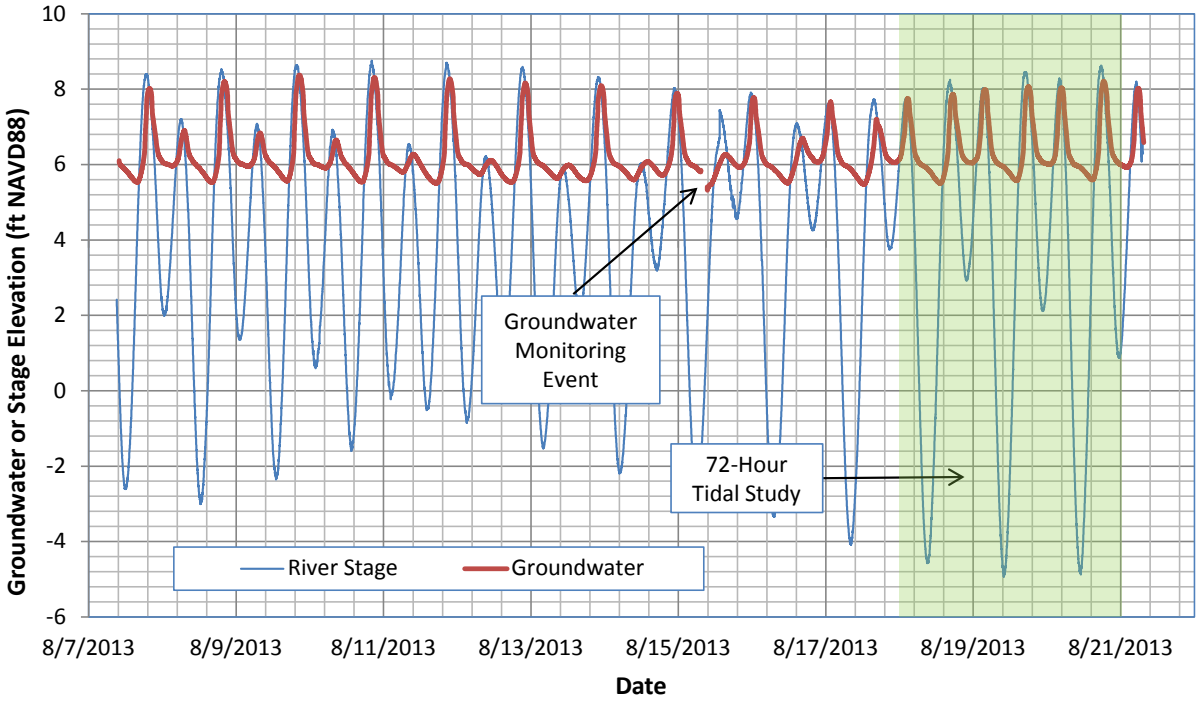
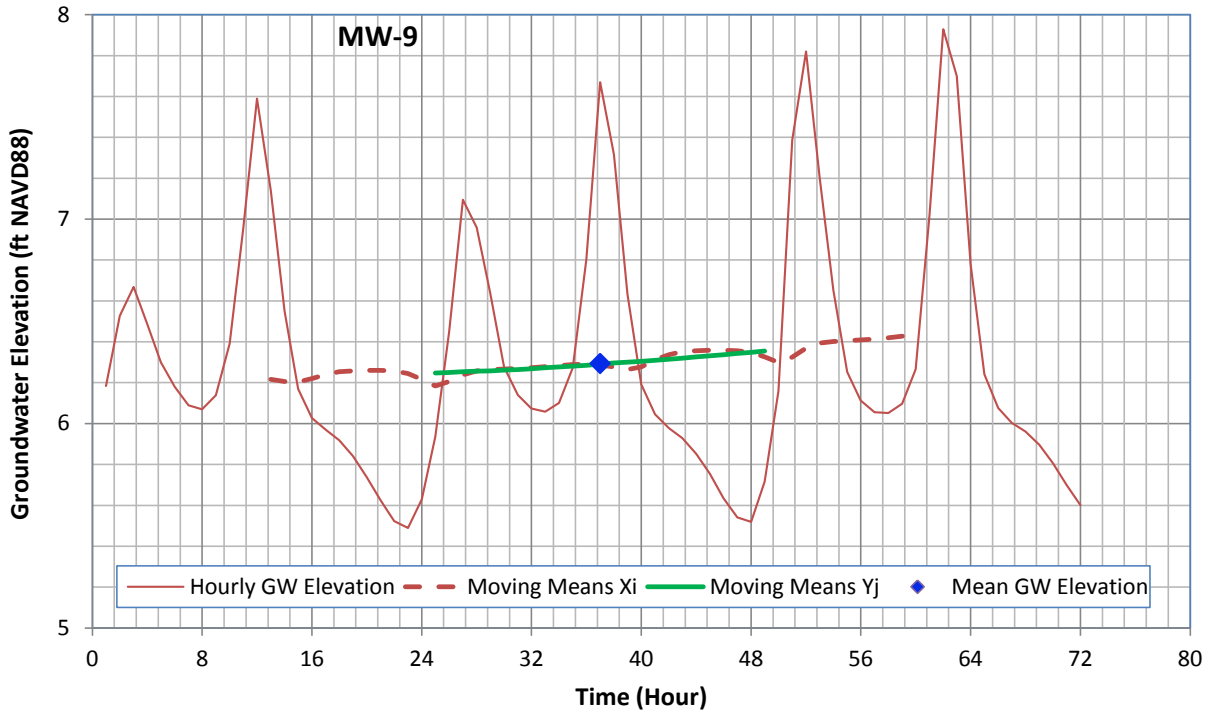


Figure D-7b: Serfes Tidal Analysis of



Notes

1. Distance to shoreline: feet
2. Serfes method (Serfes, 1991) used to determine the mean hydraulic gradient of groundwater affected by tidal fluctuations.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Serfes Tidal Analysis – MW-09	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-7

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Figure D-8a: MW-13 and Lower Duwamish Waterway Hydrograph

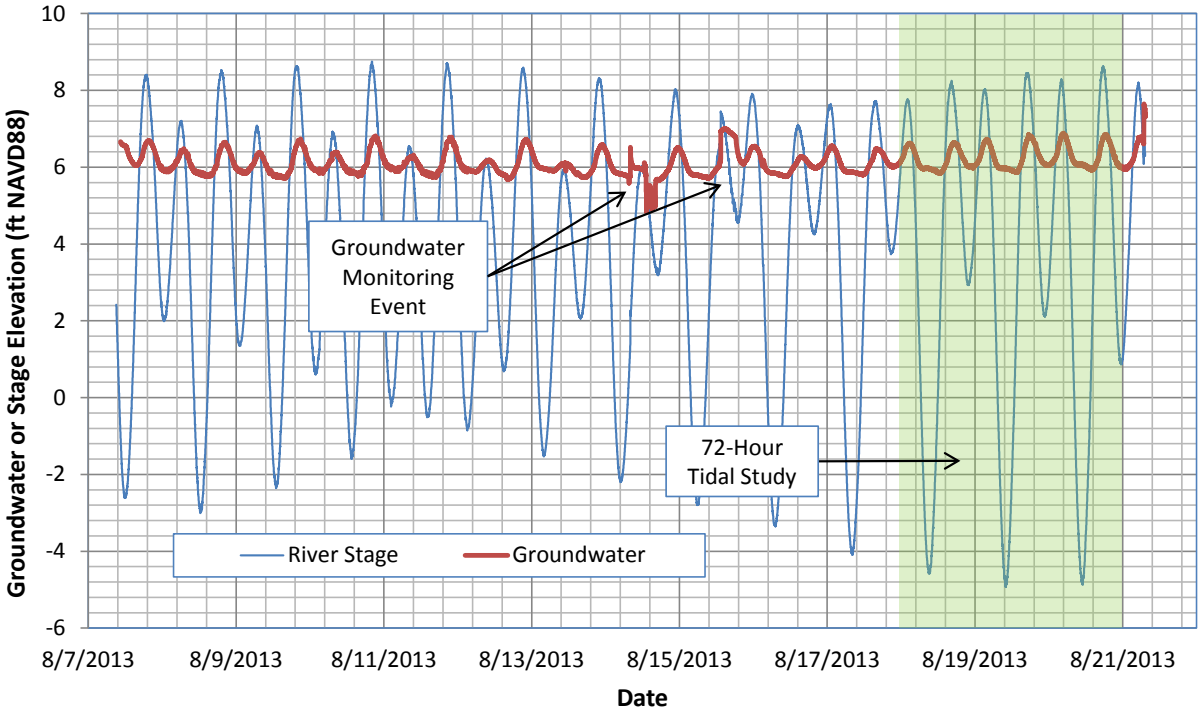
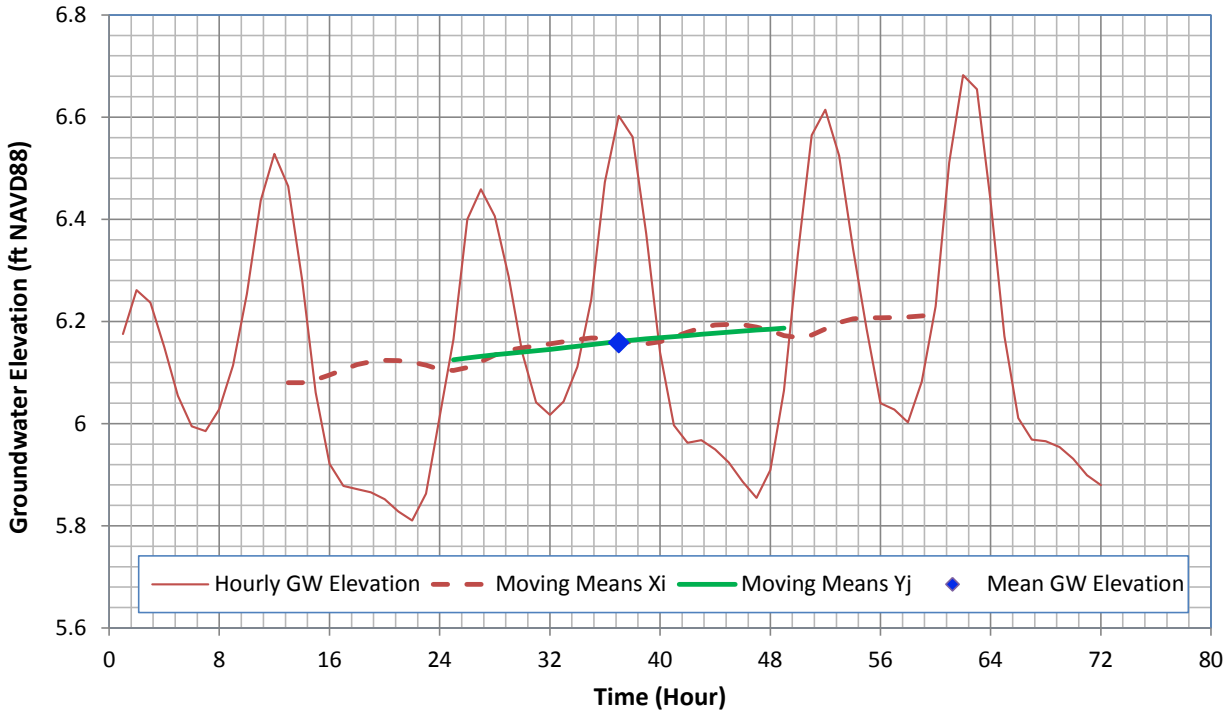


Figure D-8b: Serfes Tidal Analysis of MW-13



Notes

1. Distance to shoreline: feet
2. Serfes method (Serfes, 1991) used to determine the mean hydraulic gradient of groundwater affected by tidal fluctuations.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Serfes Tidal Analysis – MW-13	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-8

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Figure D-9a: MW-12 and Lower Duwamish Waterway Hydrograph

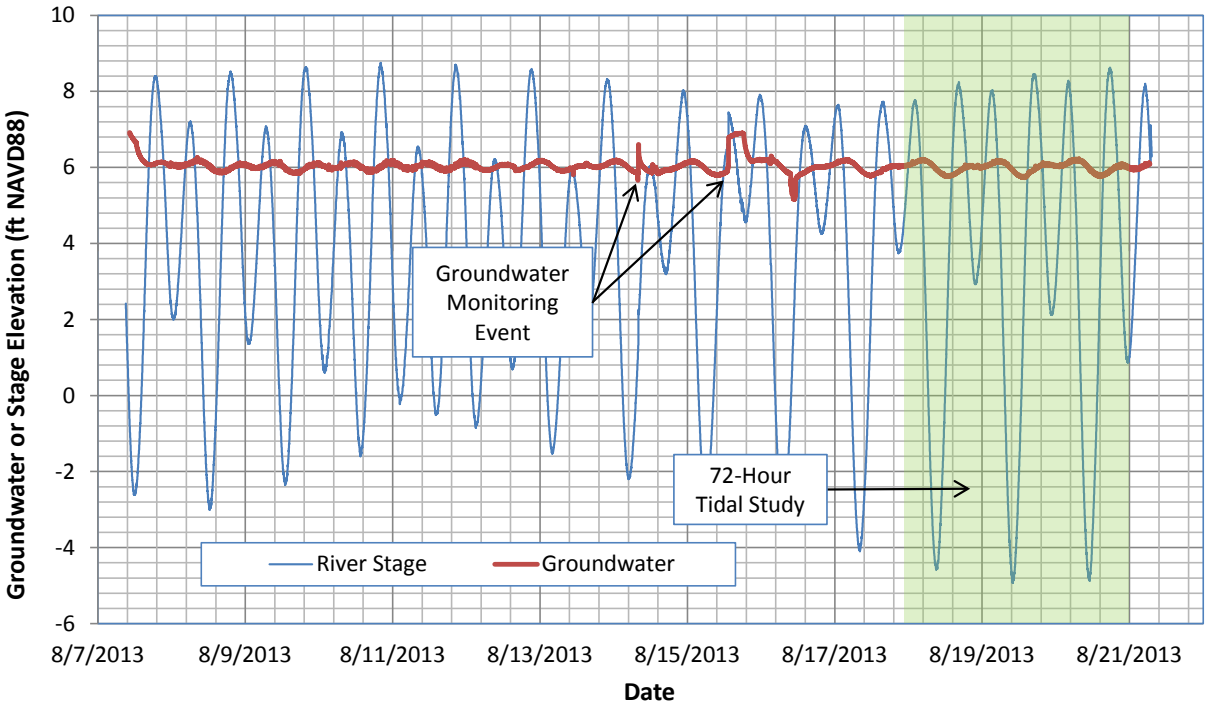
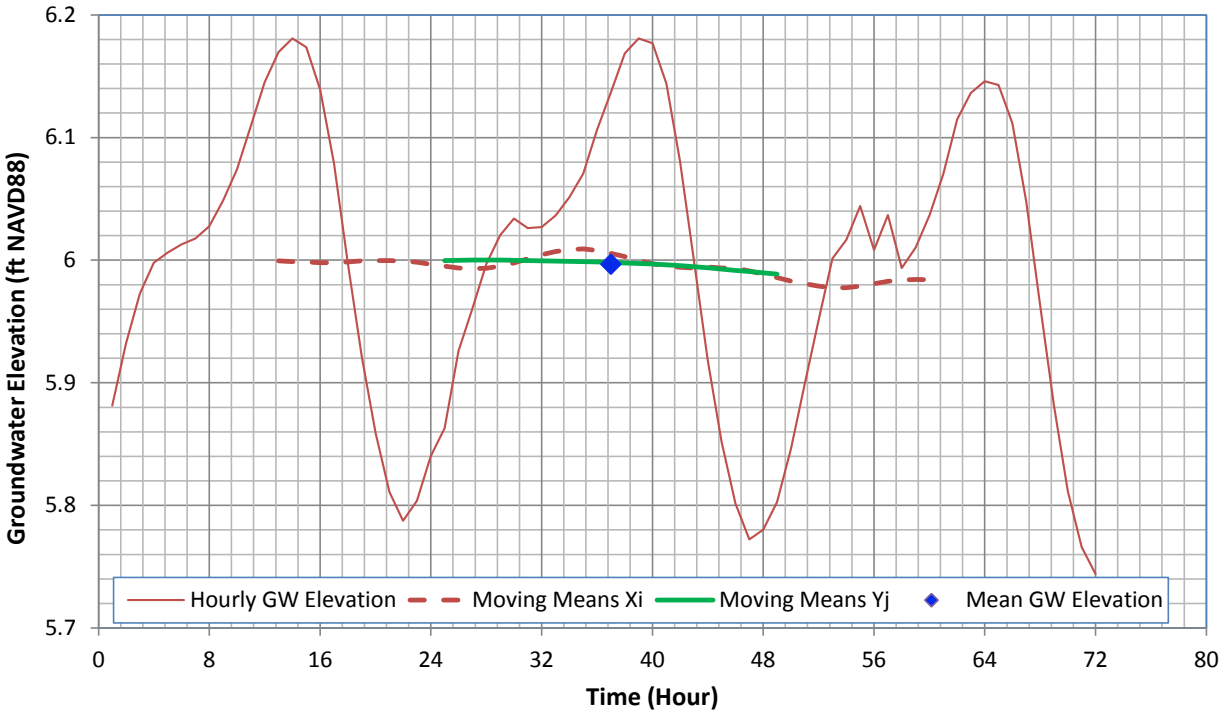


Figure D-9b: Serfes Tidal Analysis of MW-12



Notes

1. Distance to shoreline: feet
2. Serfes method (Serfes, 1991) used to determine the mean hydraulic gradient of groundwater affected by tidal fluctuations.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Serfes Tidal Analysis – MW-12	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-9

Path://sites/027501502/Draft/Ecology Review Draft RI Report/Appendix F – Hydrogeologic Testing JL:RST: 03/18/2015

Figure D-10a: MW-16 and Lower Duwamish Waterway Hydrograph

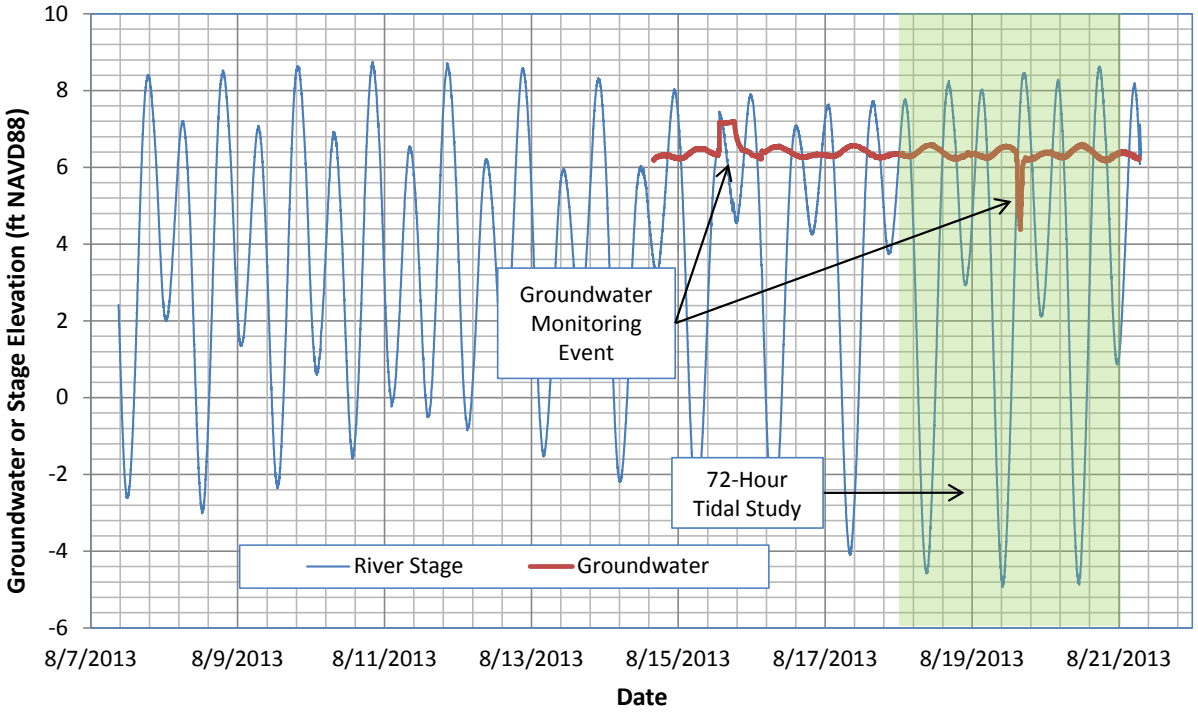
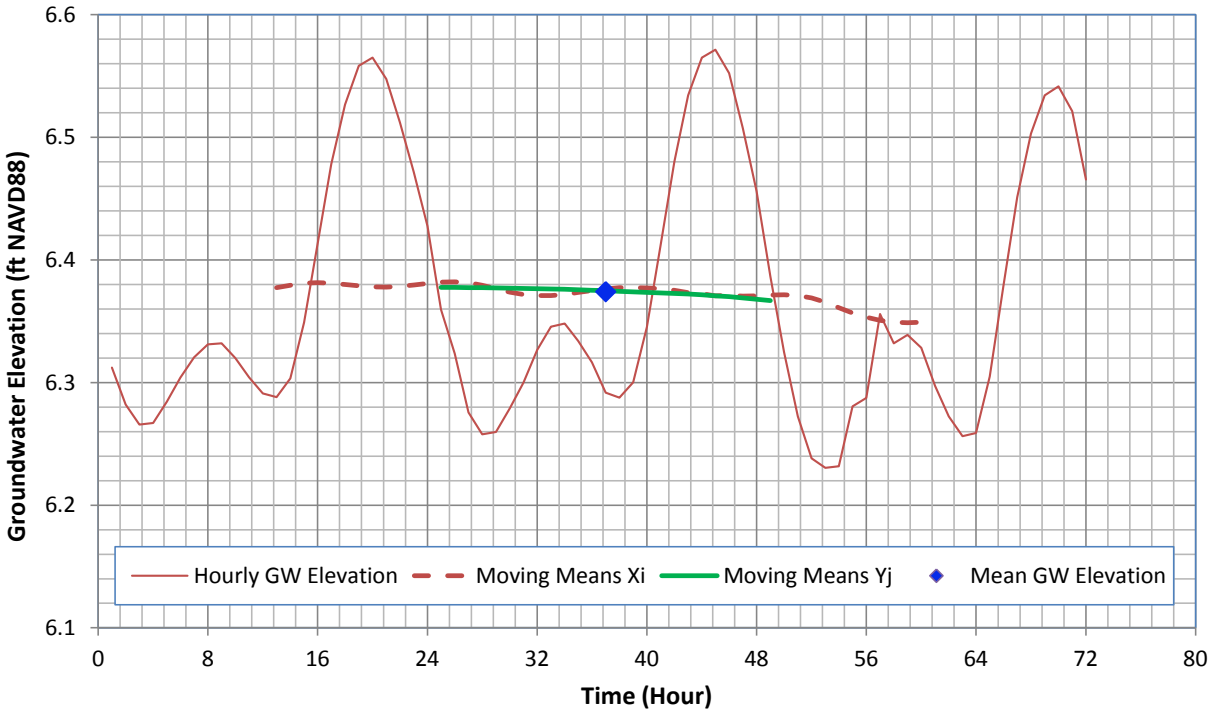


Figure D-10b: Serfes Tidal Analysis of MW-16



Notes

1. Distance to shoreline: feet
2. Serfes method (Serfes, 1991) used to determine the mean hydraulic gradient of groundwater affected by tidal fluctuations.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Serfes Tidal Analysis – MW-16	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-10

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Figure D-11a: MW-11 and Lower Duwamish Waterway Hydrograph

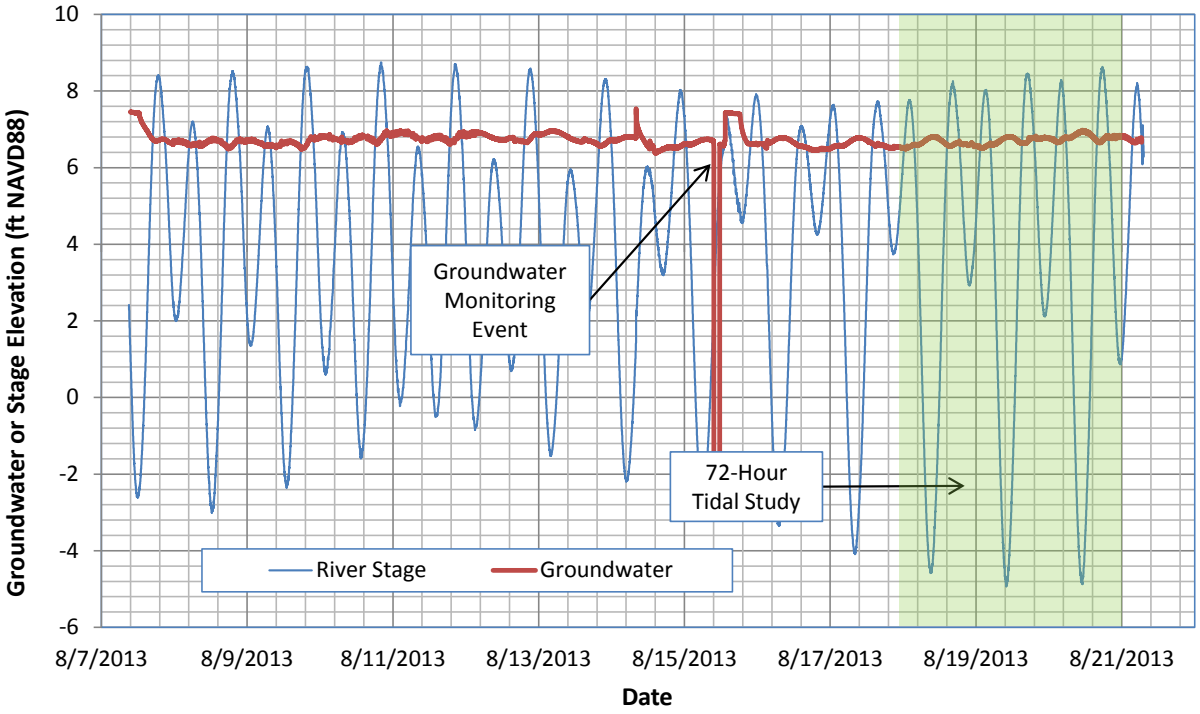
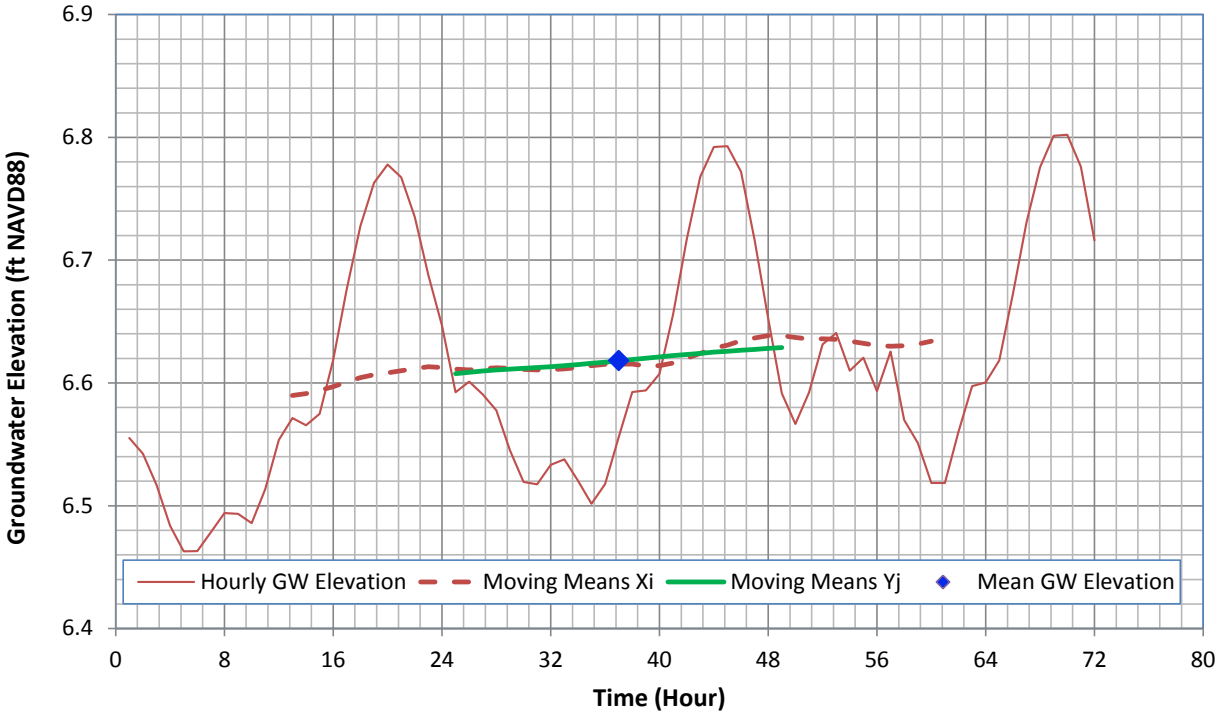


Figure D-11b: Serfes Tidal Analysis of MW-11



Notes

1. Distance to shoreline: feet
2. Serfes method (Serfes, 1991) used to determine the mean hydraulic gradient of groundwater affected by tidal fluctuations.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Serfes Tidal Analysis – MW-11	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-11

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Figure D-12a: MW-5 and Lower Duwamish Waterway Hydrograph

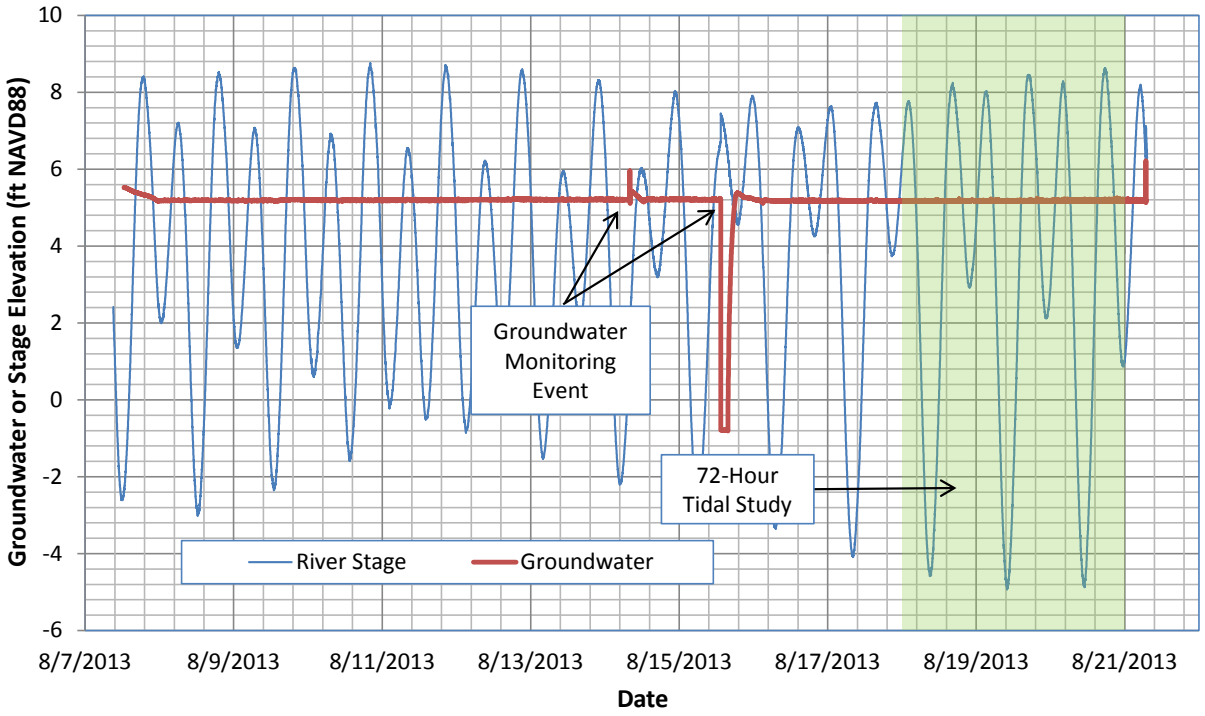
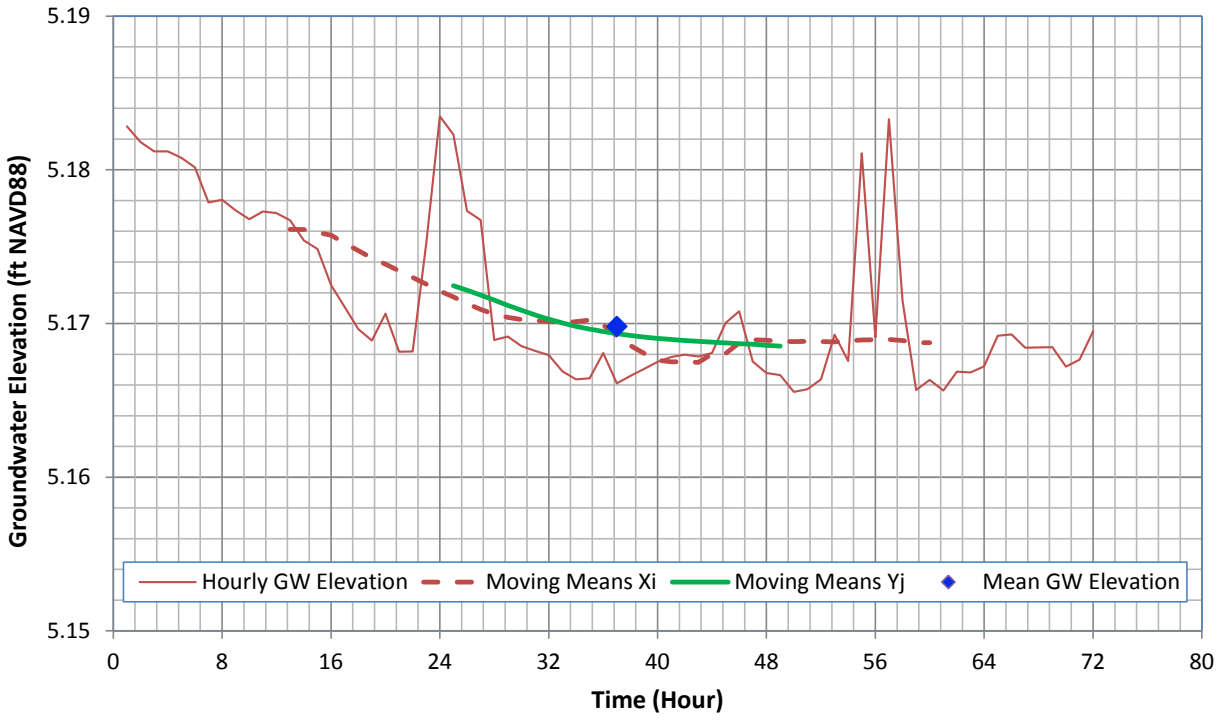


Figure D-12b: Serfes Tidal Analysis of MW-5



Notes

1. Distance to shoreline: feet
2. Serfes method (Serfes, 1991) used to determine the mean hydraulic gradient of groundwater affected by tidal fluctuations.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Serfes Tidal Analysis – MW-05	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-12

Path://sites/027501502/Draft/Ecology Review Draft RI Report/Appendix F – Hydrogeologic Testing JL:RST: 03/18/2015

Figure D-13a: Stage Ratio vs. Distance

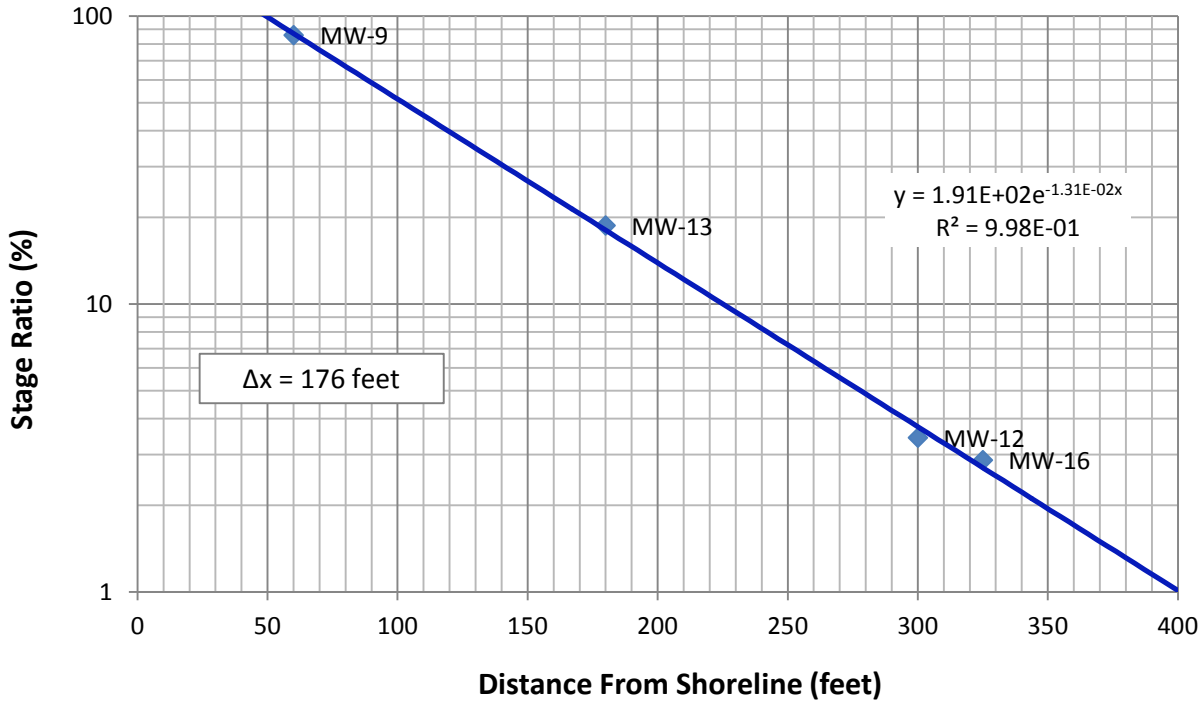
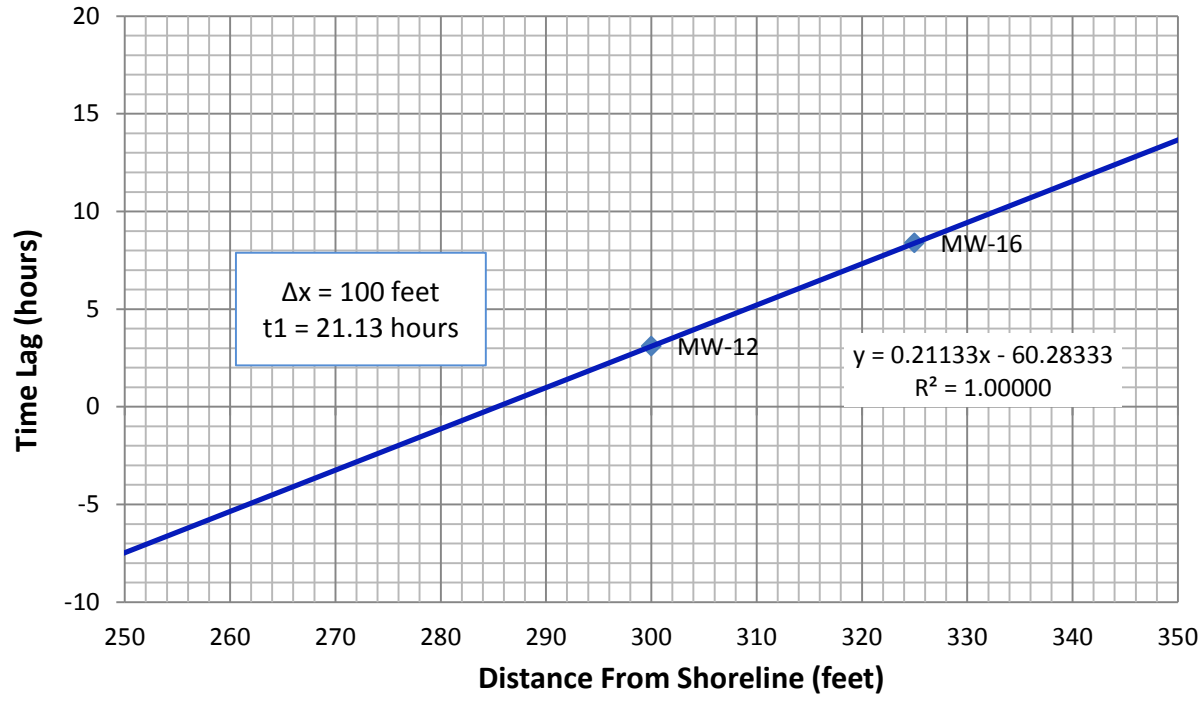


Figure D-13b: Time Lag vs. Distance



Notes

1. Distance to shoreline: feet
2. Ferris method (Ferris, 1951) used to determine the diffusivity of the aquifer.

Reference: Tidal analysis performed by GeoEngineers. August 2014.

Diffusivity Estimate	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-13

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Figure D-14a: Falling Head

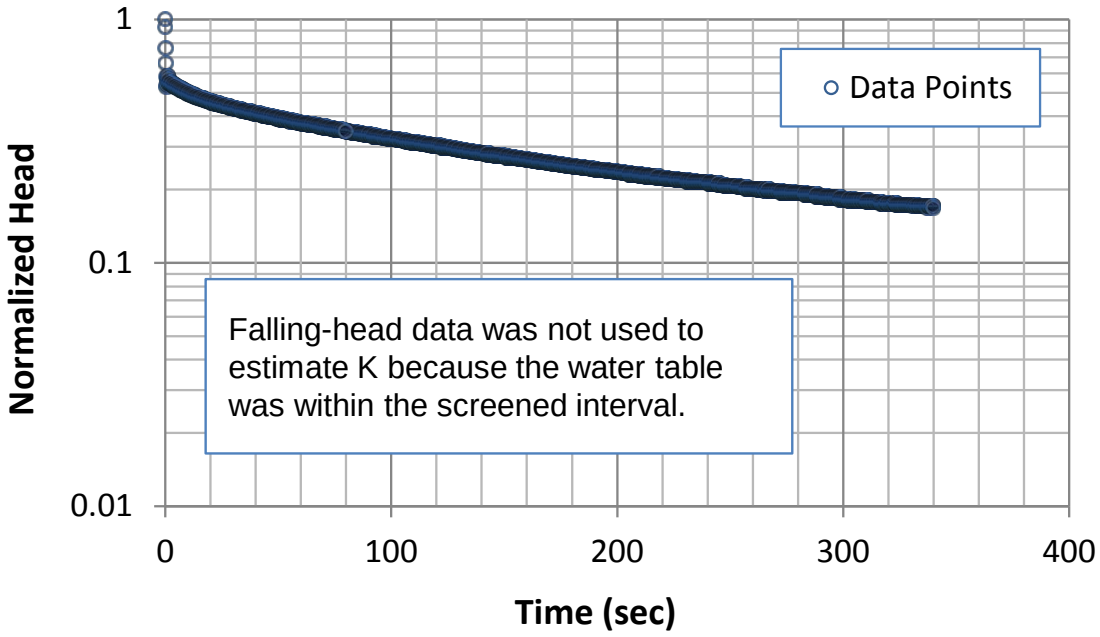
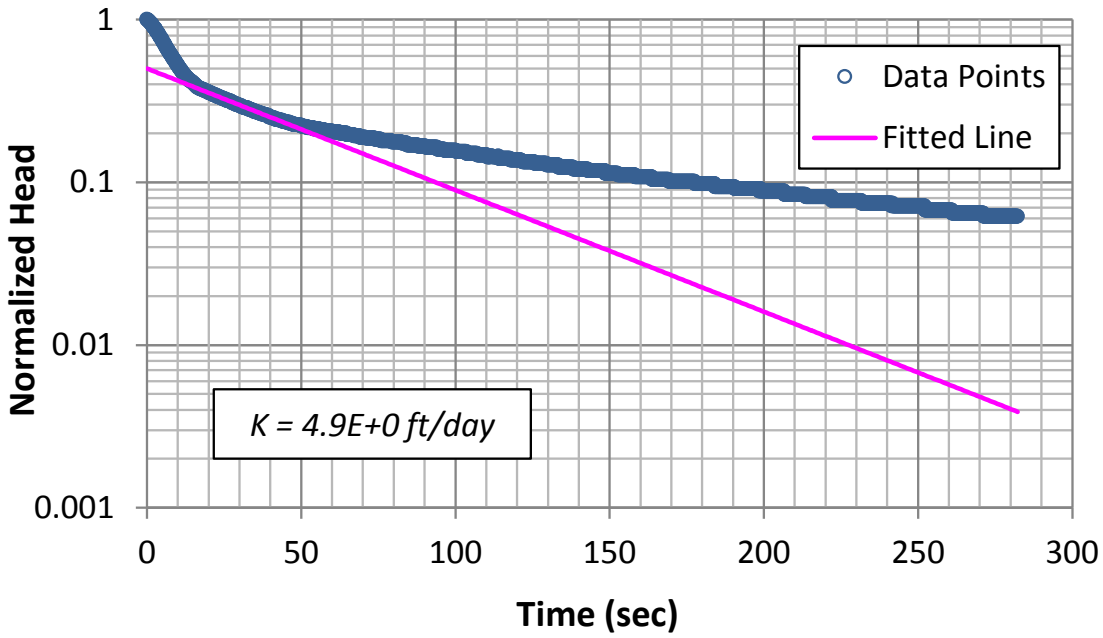


Figure D-14b: Rising Head



Notes

1. Slug test conducted in MW-2R on 8/14/2013.
2. Overdamped slug test response analyzed using Bouwer & Rice (1976) method.
3. Formation thickness, *D* = 16.3 ft used to calculate hydraulic conductivity, *K*.

Aquifer Slug Test Plot – MW-2R	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-14

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Figure D-15a Falling Head

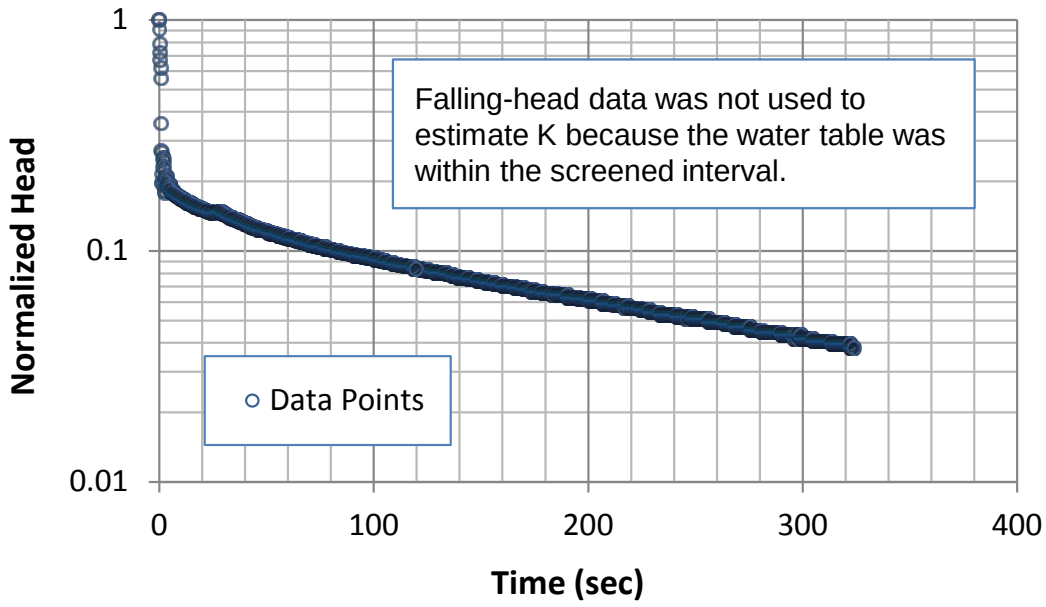
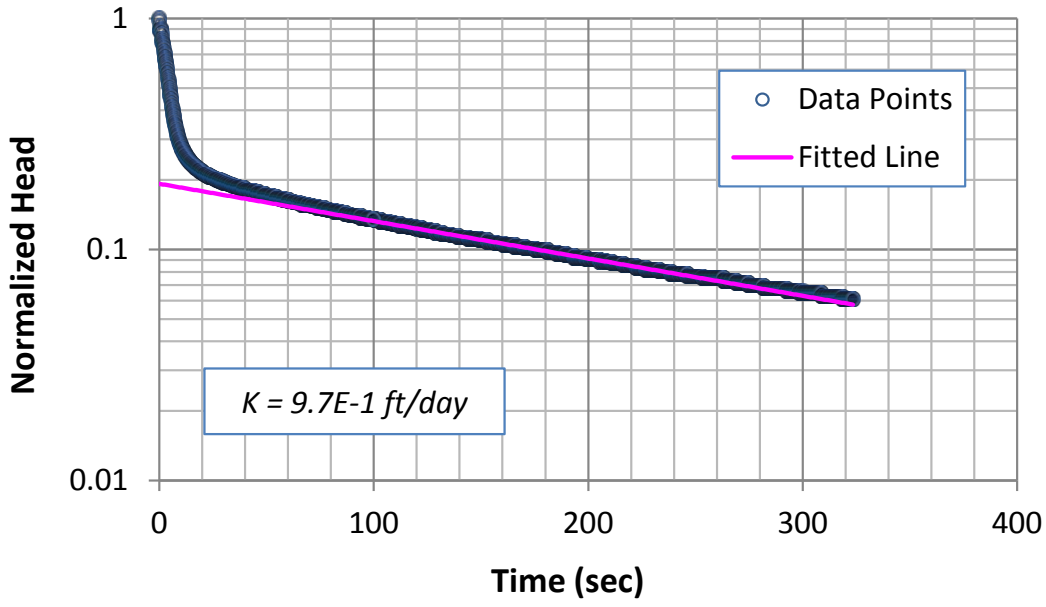


Figure D-15b Rising Head



Notes

1. Slug test conducted in MW-14 on 8/14/2013.
2. Overdamped slug test response analyzed using Bouwer & Rice (1976) method.
3. Formation thickness, *D* = 17.7 ft used to calculate hydraulic conductivity, *K*.

Aquifer Slug Test Plot – MW-14	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-15

Path://sites/027501502/Draft/Ecology Review Draft RI Report/Appendix F – Hydrogeologic Testing JL:RST: 03/18/2015

Figure D-16a Falling Head

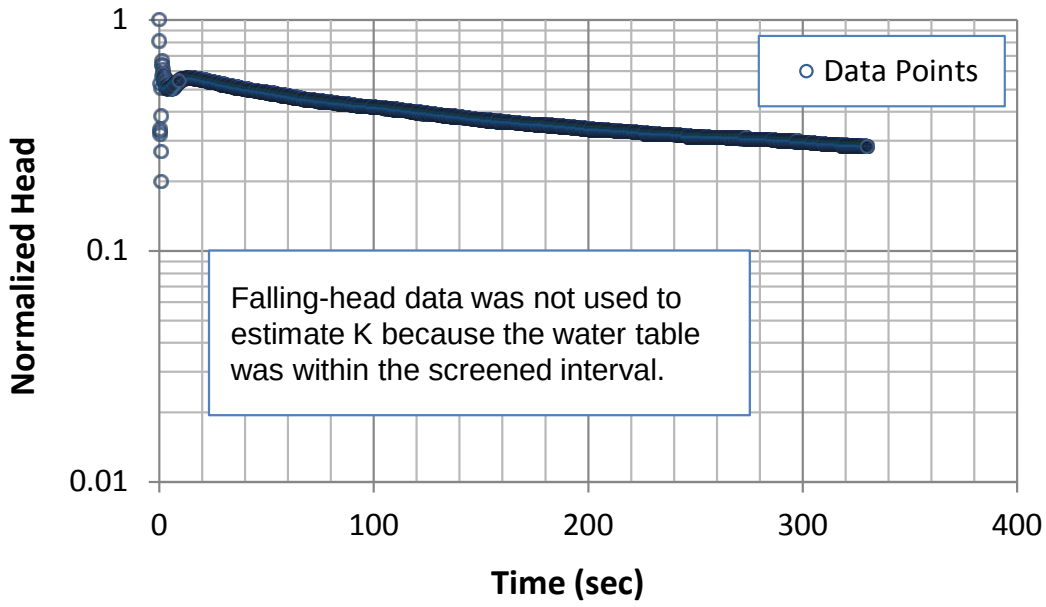
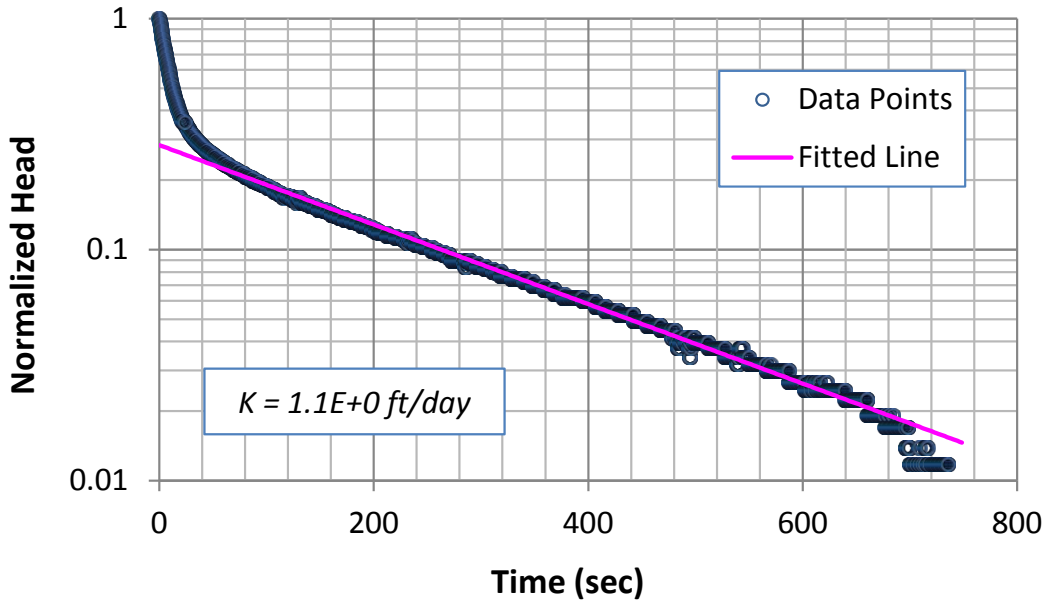


Figure D-16b Rising Head



Notes

1. Slug test conducted in MW-16 on 8/14/2013.
2. Overdamped slug test response analyzed using Bouwer & Rice (1976) method.
3. Formation thickness, *D* = 16.2 ft used to calculate hydraulic conductivity, *K*.

Aquifer Slug Test Plot – MW-16	
7100 1st Avenue South Site Seattle, Washington	
GeoEngineers	Figure D-16

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APPENDIX E
Sediment Screening Levels

Table E-1

Sediment Screening Levels

7100 1st Avenue South Site
Seattle, Washington

Analyte	CAS Number	Direct Contact - Benthic Organisms		Human Health Direct-Contact Pathway (SMS/SCUM II Formula Value)[2]						Bioaccumulation[3]	Background Concentration[4]	Practical Quantitation Limit[5]	Sediment Screening Level		Organic Carbon	
		SCO - Marine Sediment[1]		Beach Play - Child		Subsistence Clam Digging - Adult		Subsistence Net Fishing - Adult		Subsistence and Higher Trophic Level Species			Value	Units	≤ 0.5% or ≥ 4%	
		mg/kg OC	mg/kg DW	Carcinogen mg/kg	Non-Carcinogen mg/kg	Carcinogen mg/kg	Non-Carcinogen mg/kg	Carcinogen mg/kg	Non-Carcinogen mg/kg	mg/kg	mg/kg	mg/kg				
Semivolatile Organic Compounds (SVOCs)																
2,4-Dimethylphenol	105-67-9	--	2.9E-02	--	6.6E+03	--	2.3E+04	--	4.1E+04	--	--	2.0E-02	2.9E-02	mg/kg	2.9E-02	mg/kg
Benzoic Acid	65-85-0	--	6.5E-01	--	1.3E+06	--	4.5E+06	--	8.2E+06	--	--	4.0E-01	6.5E-01	mg/kg	6.5E-01	mg/kg
Benzyl Alcohol	100-51-6	--	5.7E-02	--	3.3E+04	--	1.1E+05	--	2.1E+05	--	--	2.0E-02	5.7E-02	mg/kg	5.7E-02	mg/kg
Bis(2-Ethylhexyl) Phthalate	117-81-7	4.7E+01	--	2.4E+02	5.7E+03	6.1E+01	1.5E+04	1.6E+02	2.6E+04	--	--	2.5E-02	4.7E+01	mg/kg OC	1.3E+00	mg/kg
Butyl benzyl phthalate	85-68-7	4.9E+00	--	2.0E+03	6.6E+04	7.0E+02	2.3E+05	1.8E+03	4.1E+05	--	--	5.0E-03	4.9E+00	mg/kg OC	6.3E-02	mg/kg
Carbazole	86-74-8	--	--	--	--	--	--	--	--	--	--	2.0E-02	---	---	n/a	n/a
Dibutyl phthalate	84-74-2	2.2E+02	--	--	3.3E+04	--	1.1E+05	--	2.1E+05	--	--	2.0E-02	2.2E+02	mg/kg OC	1.4E+00	mg/kg
Diethyl phthalate	84-66-2	6.1E+01	--	--	2.7E+05	--	9.0E+05	--	1.6E+06	--	--	5.0E-03	6.1E+01	mg/kg OC	2.0E-01	mg/kg
Dimethyl phthalate	131-11-3	5.3E+01	--	--	--	--	--	--	--	--	--	5.0E-03	5.3E+01	mg/kg OC	7.1E-02	mg/kg
Di-N-Octyl Phthalate	117-84-0	5.8E+01	--	--	3.3E+03	--	1.1E+04	--	2.1E+04	--	--	2.0E-02	5.8E+01	mg/kg OC	6.2E+00	mg/kg
Isophorone	78-59-1	--	--	4.1E+03	6.6E+04	1.4E+03	2.3E+05	3.7E+03	4.1E+05	--	--	2.0E-02	1.4E+03	mg/kg	1.4E+03	mg/kg
N-Nitrosodiphenylamine	86-30-6	1.1E+01	--	7.9E+02	--	2.7E+02	--	7.2E+02	--	--	--	2.0E-02	1.1E+01	mg/kg OC	2.8E-02	mg/kg
p-Cresol (4-methylphenol)	106-44-5	--	6.7E-01	--	3.3E+04	--	1.1E+05	--	2.1E+05	--	--	1.0E-02	6.7E-01	mg/kg	6.7E-01	mg/kg
Pentachlorophenol	87-86-5	--	3.6E-01	7.7E+00	1.3E+03	1.8E+00	3.1E+03	4.6E+00	5.5E+03	--	--	5.0E-02	3.6E-01	mg/kg	3.6E-01	mg/kg
Phenol	108-95-2	--	4.2E-01	--	1.0E+05	--	3.4E+05	--	6.2E+05	--	--	5.0E-03	4.2E-01	mg/kg	4.2E-01	mg/kg
Polycyclic Aromatic Hydrocarbons (PAHs)																
Total LPAHs[c]	NA	3.7E+02	--	--	--	--	--	--	--	--	--	2.0E-02	3.7E+02	mg/kg OC	5.2E+00	mg/kg
Total HPAHs[c]	NA	9.6E+02	--	--	--	--	--	--	--	--	--	5.0E-03	9.6E+02	mg/kg OC	1.2E+01	mg/kg
1-Methylphenanthrene	832-69-9	--	--	--	--	--	--	--	--	--	--	2.0E-02	---	---	n/a	n/a
2-Methylnaphthalene	91-57-6	3.8E+01	--	--	1.3E+03	--	3.9E+03	--	7.0E+03	--	--	2.0E-02	3.8E+01	mg/kg OC	6.7E-01	mg/kg
Acenaphthene	83-32-9	1.6E+01	--	--	1.9E+04	--	5.8E+04	--	1.0E+05	--	--	2.0E-02	1.6E+01	mg/kg OC	5.0E-01	mg/kg
Acenaphthylene	208-96-8	6.6E+01	--	--	--	--	--	--	--	--	--	2.0E-02	6.6E+01	mg/kg OC	1.3E+00	mg/kg
Anthracene	20-12-7	2.2E+02	--	--	--	--	--	--	--	--	--	2.0E-02	2.2E+02	mg/kg OC	9.6E-01	mg/kg
Benzo(a)anthracene	56-55-3	1.1E+02	--	cPAH TEQ	--	cPAH TEQ	--	cPAH TEQ	--	--	--	5.0E-03	1.1E+02	mg/kg OC	1.3E+00	mg/kg
Benzo(a)pyrene	50-32-8	9.9E+01	--	cPAH TEQ	--	cPAH TEQ	--	cPAH TEQ	--	--	--	5.0E-03	9.9E+01	mg/kg OC	1.6E+00	mg/kg
Benzo(ghi)perylene	191-24-2	3.1E+01	--	--	--	--	--	--	--	--	--	2.0E-02	3.1E+01	mg/kg OC	6.7E-01	mg/kg
Benzofluoranthenes (Sum)	NA	2.3E+02	--	--	--	--	--	--	--	--	--	5.0E-03	2.3E+02	mg/kg OC	3.2E+00	mg/kg
Chrysene	218-01-9	1.1E+02	--	cPAH TEQ	--	cPAH TEQ	--	cPAH TEQ	--	--	--	5.0E-03	1.1E+02	mg/kg OC	1.4E+00	mg/kg
Dibenzo(a,h)anthracene	53-70-3	1.2E+01	--	cPAH TEQ	--	cPAH TEQ	--	cPAH TEQ	--	--	--	5.0E-03	1.2E+01	mg/kg OC	2.3E-01	mg/kg
Fluoranthene	206-44-0	1.6E+02	--	--	1.3E+04	--	3.9E+04	--	7.0E+04	--	--	2.0E-02	1.6E+02	mg/kg OC	1.7E+00	mg/kg
Fluorene	86-73-7	2.3E+01	--	--	1.3E+04	--	3.9E+04	--	7.0E+04	--	--	2.0E-02	2.3E+01	mg/kg OC	5.4E-01	mg/kg
Indeno(1,2,3-cd)pyrene	193-39-5	3.4E+01	--	cPAH TEQ	--	cPAH TEQ	--	cPAH TEQ	--	--	--	5.0E-03	3.4E+01	mg/kg OC	6.0E-01	mg/kg
Naphthalene	91-20-3	9.9E+01	--	--	6.3E+03	--	1.9E+04	--	3.5E+04	--	--	2.0E-02	9.9E+01	mg/kg OC	2.1E+00	mg/kg
Phenanthrene	85-01-8	1.0E+02	--	--	--	--	--	--	--	--	--	2.0E-02	1.0E+02	mg/kg OC	1.5E+00	mg/kg
Pyrene	129-00-0	1.0E+03	--	--	9.5E+03	--	2.9E+04	--	5.2E+04	--	--	2.0E-02	1.0E+03	mg/kg OC	2.6E+00	mg/kg
cPAH TEQ	cPAH TEQ	--	--	9.5E-02	--	1.6E-01	--	4.1E-01	--	--	9.0E-03	1.0E-02	9.5E-02	mg/kg	9.5E-02	mg/kg
Polychlorinated Biphenyls (PCBs)																
PCB-aroclor 1242	53469-21-9	--	--	--	--	--	--	--	--	--	--	4.0E-03	---	---	n/a	n/a
PCB-aroclor 1248	12672-29-6	--	--	--	--	--	--	--	--	--	--	4.0E-03	---	---	n/a	n/a
PCB-aroclor 1254	11097-69-1	--	--	1.8E+00	6.2E+00	5.4E-01	1.8E+01	1.4E+00	3.3E+01	--	--	4.0E-03	5.4E-01	mg/kg	5.4E-01	mg/kg
PCB-aroclor 1260	11096-82-5	--	--	1.8E+00	--	5.4E-01	--	1.4E+00	--	--	--	4.0E-03	5.4E-01	mg/kg	5.4E-01	mg/kg
Total PCBs	1336-36-3	1.2E+01	--	1.8E+00	--	5.4E-01	--	1.4E+00	--	2.0E-03	2.0E-03	4.0E-03	4.0E-03	mg/kg	4.0E-03	mg/kg

Analyte	CAS Number	Direct Contact - Benthic Organisms		Human Health Direct-Contact Pathway (SMS/SCUM II Formula Value)[2]						Bioaccumulation[3]	Background Concentration[4]	Practical Quantitation Limit[5]	Sediment Screening Level		Organic Carbon	
		SCO - Marine Sediment[1]		Beach Play - Child		Subsistence Clam Digging - Adult		Subsistence Net Fishing - Adult		Subsistence and Higher Trophic Level Species			Value	Units	≤ 0.5% or ≥ 4%	
		mg/kg OC	mg/kg DW	Carcinogen mg/kg	Non-Carcinogen mg/kg	Carcinogen mg/kg	Non-Carcinogen mg/kg	Carcinogen mg/kg	Non-Carcinogen mg/kg	mg/kg	mg/kg	mg/kg				
Pesticides																
2,4'-DDD	53-19-0	--	--	1.8E+01	--	8.9E+00	--	2.5E+01	--	--	--	1.0E-04	8.9E+00	mg/kg	8.9E+00	mg/kg
2,4'-DDE	3424-82-6	--	--	1.3E+01	--	6.3E+00	--	1.8E+01	--	--	--	1.0E-04	6.3E+00	mg/kg	6.3E+00	mg/kg
2,4'-DDT	789-02-6	--	--	1.3E+01	1.9E+02	6.3E+00	9.1E+02	1.8E+01	1.8E+03	--	--	1.0E-04	6.3E+00	mg/kg	6.3E+00	mg/kg
4,4'-DDD	72-54-8	--	--	1.8E+01	--	8.9E+00	--	2.5E+01	--	--	--	1.0E-04	8.9E+00	mg/kg	8.9E+00	mg/kg
4,4'-DDE	72-55-9	--	--	1.3E+01	--	6.3E+00	--	1.8E+01	--	--	--	1.0E-04	6.3E+00	mg/kg	6.3E+00	mg/kg
4,4'-DDT	50-29-3	--	--	1.3E+01	1.9E+02	6.3E+00	9.1E+02	1.8E+01	1.8E+03	--	--	1.0E-04	6.3E+00	mg/kg	6.3E+00	mg/kg
Aldrin	309-00-2	--	--	2.3E-01	1.0E+01	7.8E-02	3.4E+01	2.1E-01	6.2E+01	--	--	1.0E-04	7.8E-02	mg/kg	7.8E-02	mg/kg
Alpha-Chlordane	56534-02-2	--	--	1.2E+01	1.9E+02	5.6E+00	8.4E+02	1.6E+01	1.6E+03	--	--	1.0E-04	5.6E+00	mg/kg	5.6E+00	mg/kg
Gamma-Chlordane	5566-34-7	--	--	1.2E+01	1.9E+02	5.6E+00	8.4E+02	1.6E+01	1.6E+03	--	--	1.0E-04	5.6E+00	mg/kg	5.6E+00	mg/kg
Beta-BHC	319-85-7	--	--	2.2E+00	--	7.3E-01	--	1.9E+00	--	--	--	1.0E-04	7.3E-01	mg/kg	7.3E-01	mg/kg
Chlordane	57-74-9	--	--	1.2E+01	1.9E+02	5.6E+00	8.4E+02	1.6E+01	1.6E+03	--	--	1.0E-04	5.6E+00	mg/kg	5.6E+00	mg/kg
Dieldrin	60-57-1	--	--	2.4E-01	1.7E+01	8.3E-02	5.6E+01	2.2E-01	1.0E+02	--	--	2.0E-04	8.3E-02	mg/kg	8.3E-02	mg/kg
Endosulfan II	19670-15-6	--	--	--	2.0E+03	--	6.8E+03	--	1.2E+04	--	--	2.0E-04	2.0E+03	mg/kg	2.0E+03	mg/kg
Endrin	72-20-8	--	--	--	1.0E+02	--	3.4E+02	--	6.2E+02	--	--	2.0E-04	1.0E+02	mg/kg	1.0E+02	mg/kg
Hexachlorobenzene	118-74-1	3.8E-01	--	2.4E+00	2.7E+02	8.3E-01	9.0E+02	2.2E+00	1.6E+03	--	--	1.0E-04	3.8E-01	mg/kg OC	2.2E-02	mg/kg
Gamma-BHC (Lindane)	58-89-9	--	--	3.9E+00	1.1E+02	1.8E+00	5.0E+02	4.9E+00	9.6E+02	--	--	1.0E-04	1.8E+00	mg/kg	1.8E+00	mg/kg
Methoxychlor	72-43-5	--	--	--	1.7E+03	--	5.6E+03	--	1.0E+04	--	--	1.0E-04	1.7E+03	mg/kg	1.7E+03	mg/kg
Metals																
Arsenic	7440-38-2	--	5.7E+01	2.9E+00	1.1E+02	1.4E+00	5.5E+02	4.0E+00	1.1E+03	--	7.0E+00	2.0E-01	7.0E+00	mg/kg	7.0E+00	mg/kg
Cadmium	7440-43-9	--	5.1E+00	--	--	--	--	--	--	--	--	1.0E-01	5.1E+00	mg/kg	5.1E+00	mg/kg
Chromium III / Total	16065-83-1	--	2.6E+02	--	6.0E+05	--	3.7E+06	--	7.5E+06	--	--	5.0E-01	2.6E+02	mg/kg	2.6E+02	mg/kg
Copper	7440-50-8	--	3.9E+02	--	1.6E+04	--	1.0E+05	--	2.0E+05	--	--	5.0E-01	3.9E+02	mg/kg	3.9E+02	mg/kg
Lead	7439-92-1	--	4.5E+02	--	--[8]	--	--[8]	--	--[8]	--	--	1.0E-01	4.5E+02	mg/kg	4.5E+02	mg/kg
Mercury	7439-97-6	--	4.1E-01	--	1.2E+02	--	7.5E+02	--	1.5E+03	--	--	2.5E-02	4.1E-01	mg/kg	4.1E-01	mg/kg
Nickel	7440-02-0	--	--	--	8.1E+03	--	5.0E+04	--	1.0E+05	--	--	5.0E-01	8.1E+03	mg/kg	8.1E+03	mg/kg
Silver	7440-22-4	--	6.1E+00	--	2.0E+03	--	1.2E+04	--	2.5E+04	--	--	2.0E-01	6.1E+00	mg/kg	6.1E+00	mg/kg
Zinc	7440-66-6	--	4.1E+02	--	1.2E+05	--	7.5E+05	--	1.5E+06	--	--	4.0E+00	4.1E+02	mg/kg	4.1E+02	mg/kg

Notes:

[1] Source: Sediment Management Standards (SMS) Sediment Cleanup Objectives (Table III, Chapter 173-204 Washington Administrative Code [WAC]). Organic carbon-normalized values are applicable for sediment total organic carbon (TOC) values between 0.5% and 4%; all ten LDW sediment samples evaluated for the 7100 1st Avenue South Site had TOC values within this range (mean TOC = 2.3%).

[2] Sediment screening levels for the protection of human health via direct contact are calculated using equations provided in Washington State Department of Ecology's (Ecology) Final Sediment Cleanup Users Manual II (SCUM II) guidance (Ecology, 2015) and input parameters from the LDW Remedial Investigation (RI) Report, Appendix B (Final Baseline Human Health Risk Assessment), dated November 12, 2007.

[3] Bioaccumulation value for Total PCBs is the human seafood consumption sediment cleanup level established in the December 2014 LDW Record of Decision (ROD). This Total PCBs value is also protective of the River Otter.

[4] Natural background sediment concentrations are presented in Table 3 of the LDW ROD (EPA, 2014).

[5] Listed values are the lowest available practical quantitation limits from Analytical Resources, Inc. of Tukwila, Washington or Columbia Analytical Laboratory of Kelso, Washington.

[6] Total low molecular weight polycyclic aromatic hydrocarbons (LPAH) is the sum of Napthalene, Acenapthylene, Acenapthene, Fluorene, Phenanthrene and Anthracene; 2-Methylnapthalene is not included in the sum.

[7] Total high molecular weight polycyclic aromatic hydrocarbons (HPAH) is the sum of Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzofluoranthenes, Benzo(a)pyrene, Indeno(1,2,3-c-d)pyrene, Dibenzo(a,h)anthracene and Benzo(g,h,i)perylene.

[8] See text for additional discussion of human health direct contact screening levels for lead.

CAS = Chemical Abstract Services

cPAH = Carcinogenic polycyclic aromatic hydrocarbon

LDW = Lower Duwamish Waterway

mg/kg = Milligrams per kilogram

mg/kg DW = Milligrams per kilogram dry weight

mg/kg OC = Milligrams per kilogram normalized to organic carbon

NA = not applicable

ROD = Record of Decision

SCO = Sediment Cleanup Objective

TEQ = Toxicity equivalency quotient

-- = Not available/not applicable

Shading indicates basis for screening level.

APPENDIX F
Terrestrial Ecological Evaluation Forms

Douglas Management Company: Uplands Ecological Risk Analysis

Memorandum

To: Victoria Sutton, Site Manager
Toxics Cleanup Program
Northwest Regional Office

From: Arthur Buchan, Toxicologist
Information & Policy Section
Toxics Cleanup Program

Date: October 13, 2017

This memorandum represents a Department of Ecology analysis and recommendation regarding the Terrestrial Ecological Evaluation section (Terrestrial Ecological Evaluation – Section 5.1.3.Soil Screening Levels) of the document: *Ecology Review Draft Remedial Investigation Report: 7100 1st Avenue South Seattle, LLC [Alaska Marine Lines Shipyard/Douglas Management Company Property] Seattle, Washington: December 30, 2016* (GeoEngineers, 2016) (Facility Site ID No. 97573251).

Determination:

Consultant recommendations appear to be consistent with the requirements of the Model Toxics Control Act (MTCA), Terrestrial Ecological Evaluation (TEE), WAC 173-340-7490 through 7494 (Ecology, 2007). It appears the Simplified TEE process may ended under WAC 173-340-7492(2) (a) (ii).

For Questions regarding this Memorandum, please contact:

Arthur Buchan
Phone: (360) 407-7146
Email: abuc461@ecy.wa.gov

Comments/Recommendations

Exclusionary Criteria

No further evaluation of the TEE is required if any of the below exclusionary criteria are met at the site:

1. **Contamination below the point of compliance (340-7491(1) (a)).** This exclusion should not apply. It appears contamination is located at a shallower depth than 15 ft bgs.
2. **Incomplete exposure pathway (340-7491(1) (b)).** This exclusion should not apply. It appears there are complete exposure pathways in the upland area. As described in section 2.4 of the draft RI; "a soil berm rises above the riprap and contains a narrow (approximately 3 to 10 feet wide) riparian zone adjacent to Trotsky inlet that is vegetated with grasses, Himalayan blackberry, shrub willow and alder (City of Seattle, 1998) (GeoEngineers, 2016). A figure with the exposure pathways has been provided in Appendix A (*DMC Site – Exposure Pathways*).
3. **Area of contiguous undeveloped land (340-7491(1) (c)).** This exclusion should not apply. It appears that there is greater than 0.25 acres of contiguous undeveloped land on or within 500 ft of the site (app. 1.53 acres), and it also appears hazardous bioaccumulatives are present (i.e. pentachlorophenol, PCB mixtures, etc.). Please see Appendix B (*DMC Site – Contiguous Undeveloped Land*, left hand side of the map – West of 509 freeway).

Discussion: It appears that the site does not qualify for an exclusion from the TEE requirements.

Simplified or Site-Specific Criteria:

If the site cannot be excluded as discussed above, then a simplified or site-specific TEE is required. A site-specific TEE is required if any of the below criteria apply:

1. **Management or land use plans maintain or restore native vegetation (340-7491(2) (a) (i)).** It does not appear that this criterion would apply.
2. **Use by threatened or endangered species (340-7491(2) (a) (ii)).** It does not appear that this criterion would apply.
3. **Amount of native vegetation located on the property within 500 ft. of the site (340-7491(2) (a) (iii)).** It does not appear that this criterion would apply. There does not appear to be greater than 10 acres of native vegetation within 500 ft of the site, located within the property boundaries. Please see Appendix C (*DMC Site with 500 ft. Buffer*).
4. **Department determination (340-7491(2) (a) (iv)).** This criterion should not apply. The department has not determined that the site may present a risk to significant wildlife populations.

Discussion: It does not appear that a Site-Specific TEE would be necessary.

Summary: It appears a simplified TEE would be required at this site.

Simplified TEE Requirements:

The simplified TEE evaluation may be ended if any of the following criteria apply:

1. **Exposure analysis (total area of soil contamination) (340-7492(2) (a) (i)).** This criterion should not apply. It appears the total area of soil contamination > 350 square feet.
2. **Exposure analysis (substantial wildlife exposure) (340-7492(2) (a) (ii)).** It appears this criterion should apply. The land west of the freeway and across should be considered as contiguous undeveloped land, and it appears the largest area of contiguous undeveloped land is approximately 1.53 acres. Based on the acreage (1.5 acres), the point total assigned should be 7 pts. This point total would then be compared to the points added for boxes 2-5 (which is 8). Under this scenario, the simplified process should be ended Please see Appendix D (Table 749-1).
3. **Pathways analysis (340-7492(2) (b)).** This criterion should not apply. It appears there is contamination in the undeveloped areas within the site.
4. **Contaminants analysis (340-7492(2) (c)).** This criterion should not apply. There appears to be contaminants sampled and analyzed for that are above the values listed in Table 749-2 (either unrestricted or industrial/commercial columns).

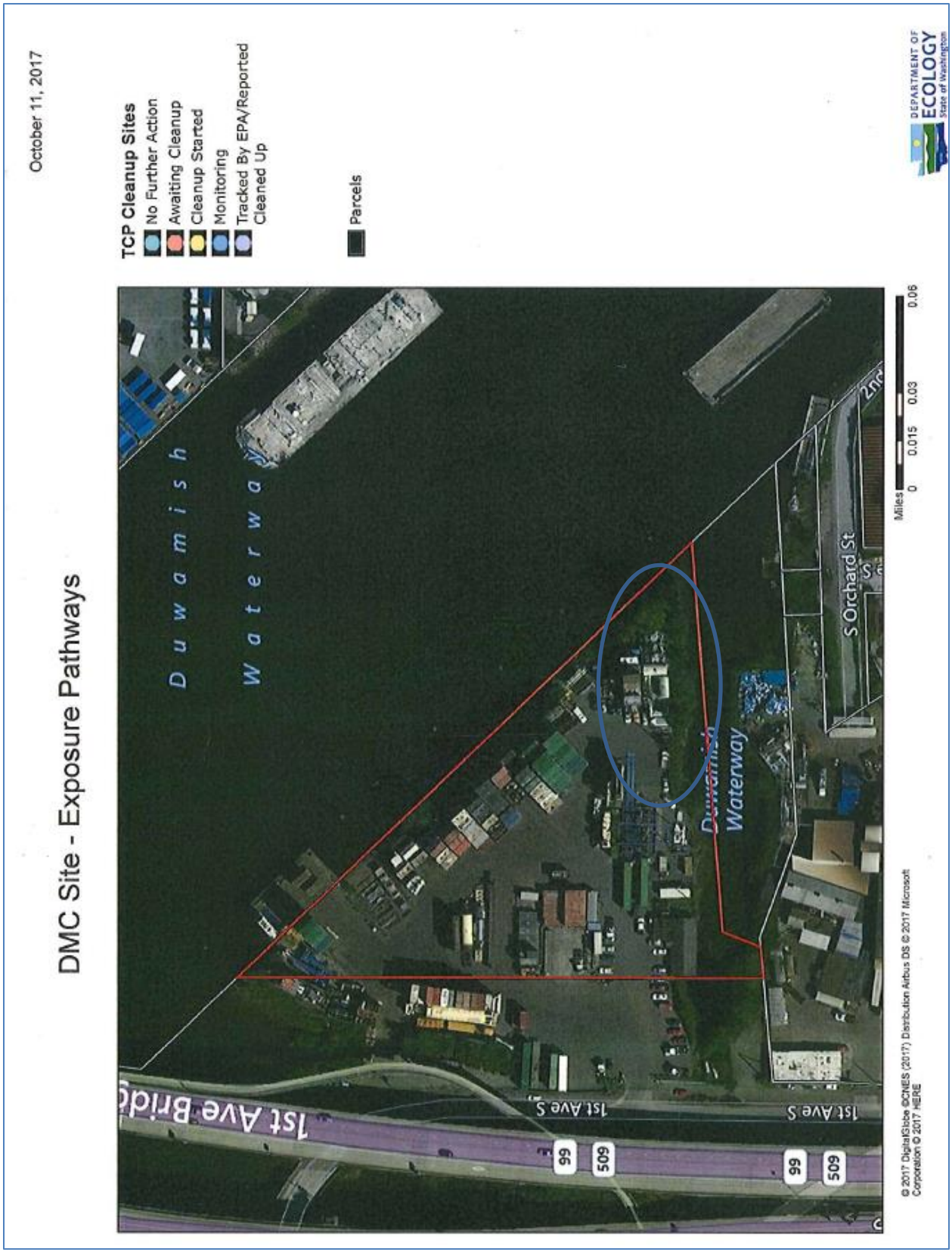
Discussion: It appears that the simplified TEE may be ended under the Exposure Analysis Scenario (substantial wildlife exposure) (340-7492(2) (a) (ii)).

References Cited

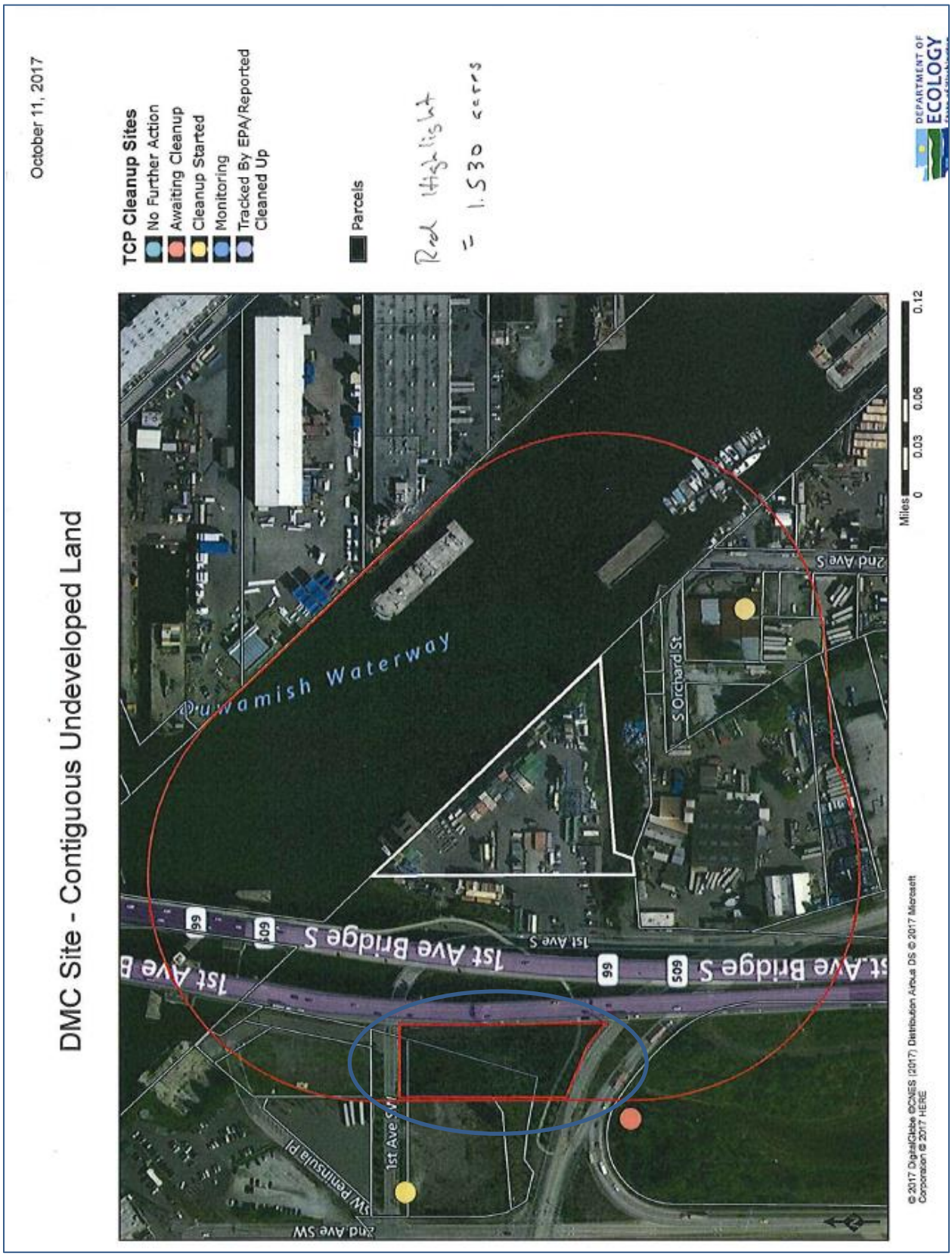
Ecology. (2007). *Model Toxics Control Act statute and regulation, Chapter 173-340 WAC.* (Ecology Publication No. 94-06). Lacey, WA: Washington State Department of Ecology, Toxics Cleanup Program.

GeoEngineers. (2016). *Ecology Review Draft Remedial Investigation Report: 7100 1st Avenue South Seattle, LLC [Alaska Marine Lines Shipyard/Douglas Management Company Property] Seattle, Washington.* GeoEngineers, 2016.

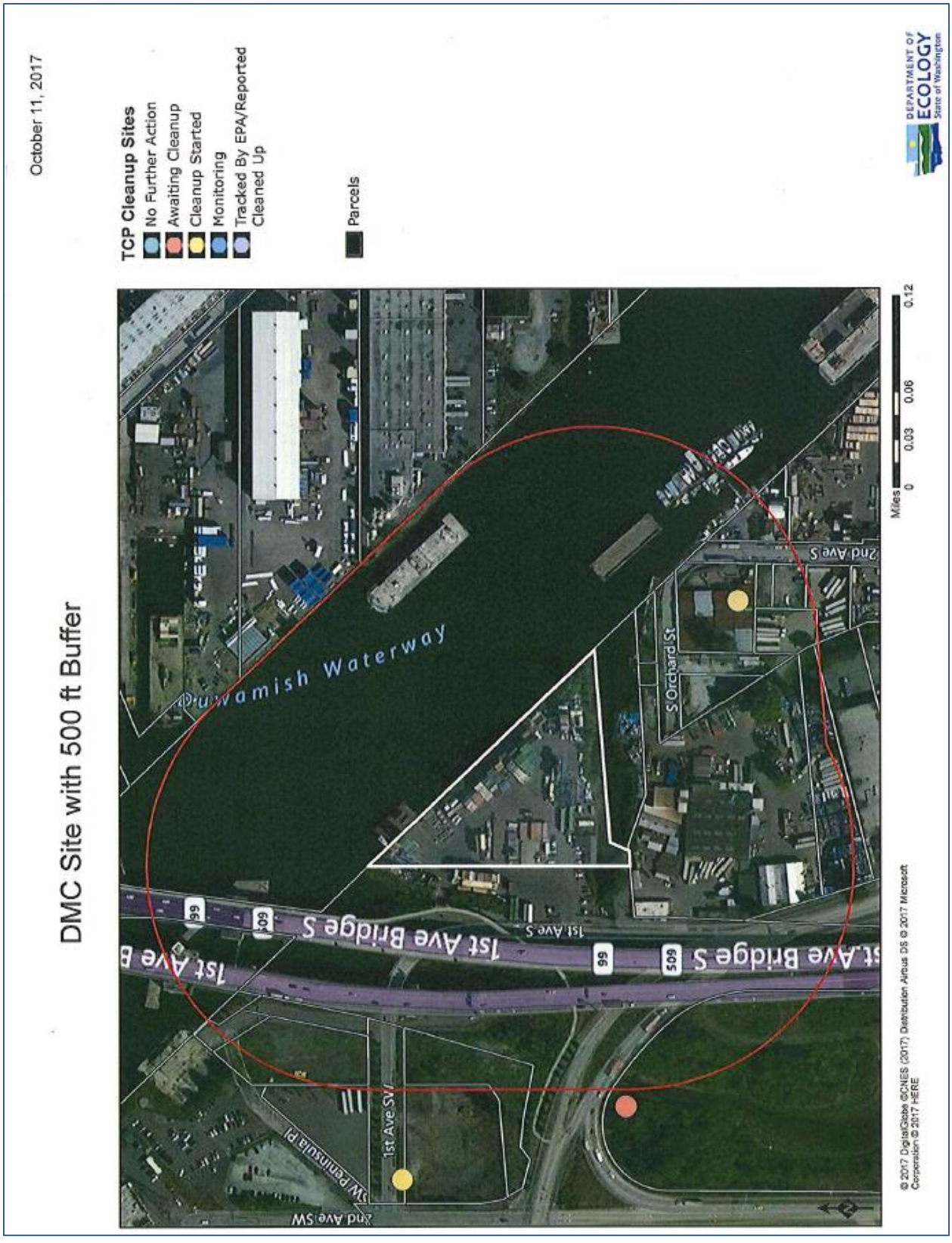
Appendix A: DMC Site - Exposure Pathways



Appendix B: DMC Site – Contiguous Undeveloped Land within 500 ft. Buffer



Appendix C: DMC Site with 500 ft. Buffer



Appendix D: Table 749-1, Exposure Analysis

Table 749-1
Simplified Terrestrial Ecological Evaluation – Exposure Analysis Procedure under WAC 173-340-7492(2)(a)(ii).[a]

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre). "Undeveloped land" means land that is not covered by existing buildings, roads, paved areas or other barriers that will prevent wildlife from feeding on plants, earthworms, insects or other food in or on the soil.	
1) From the table below, find the number of points corresponding to the area and enter this number in the box to the right.	7
Area (acres) / Points: 0.25 or less – 4; 0.5 – 5; 1.0 – 6; 1.5 – 7; 2.0 – 8; 2.5 – 9; 3.0 – 10; 3.5 – 11; 4.0 or more – 12	
2) Is this an industrial or commercial property? See WAC 173-340-7490(3)(c). If yes, enter a score of 3 in the box to the right. If no, enter a score of 1.	3
3) Enter a score in the box to the right for the habitat quality of the site, using the rating system shown below[b]. (High = 1, Intermediate = 2, Low = 3)	3
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2. See footnote c.	1
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	1
6) Add the numbers in the boxes on lines 2 through 5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified terrestrial ecological evaluation may be ended under WAC 173-340-7492 (2)(a)(ii).	8

Footnotes:

a It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score (1) for questions 3 and 4.

b **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:
Low: Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.
High: Area is ecologically significant for one or more of the following reasons: Late-successional native plant communities present; relatively high species diversity; used by an uncommon or rare species; priority habitat (as defined by the Washington Department of Fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.
Intermediate: Area does not rate as either high or low.

c Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use by mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

Box 1 < Box 6:
Simplified TEE process may be ended under Exposure Analysis.

APPENDIX G
Soil, Groundwater, and Stormwater Data Tables

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	VADOSE HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	VADOSE HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL
			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL
			Location ID:	DMC*MW-01	DMC*MW-01	DMC*MW-01	MW-2	MW-2	MW-2	DMC*MW-03	DMC*MW-03	DMC*MW-03	DMC*MW-04	SB-1	SB-1
			Sample ID:	MW-1-3.5	MW-1-8.5	MW-1-13.5	MW-2-3.5	MW-2-13.5	MW-2-18.5	MW-3-3.5	MW-3-13.5	MW-3-18.5	MW-4-3.5	SB-1-3.5	SB-1-11.5
			Sample Depth:	3-3.5 ft	8-8.5 ft	13-13.5 ft	3-3.5 ft	13-13.5 ft	18-18.5 ft	3-3.5 ft	13-13.5 ft	18-18.5 ft	3-3.5 ft	3-3.5 ft	11-11.5 ft
			Date Sampled:	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/26/90	10/26/90	10/26/90
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
Total Petroleum Hydrocarbons (TPH)															
Total Petroleum Hydrocarbons[1]	**2000**	**2000**	mg/Kg	**720**	**480**	**820**	**25**	**110**	**350**	**550**	**380**	**540**	**360**	**12**	**73**
Gasoline-range hydrocarbons	**30**	**30**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Diesel-range hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Diesel plus Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Volatile Organic Compounds (VOCs)															
1,1,1-Trichloroethane	**160000**	**160000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**2400000**	**2400000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloroethane	**0.019**	**0.0010**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloroethane	**180**	**180**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloropropene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,3-Trichlorobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trichlorobenzene	**34**	**34**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trimethylbenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trichlorobenzene	**34**	**34**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trimethylbenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichlorobenzene (o-Dichlorobenzene)	**7200**	**7200**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloroethane	**11**	**11**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloropropane	**28**	**28**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,3,5-Trimethylbenzene	**800**	**800**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,3-Dichlorobenzene (m-Dichlorobenzene)	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,4-Dichlorobenzene (p-Dichlorobenzene)	**180**	**180**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
2-Butanone (MEK)	**48000**	**48000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
2-Chlorotoluene	**1600**	**1600**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
2-Hexanone	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**6400**	**6400**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Acetone	**72000**	**72000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Benzene	**0.030**	**0.0016**	mg/Kg	0.0020 U	0.0020 U	0.0050 U	0.0020 U	**0.05**	0.0020 U	**0.0150**	**0.0280**	0.0020 U	0.0050 U	0.0050 U	0.0050 U
Bromobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Bromomethane	**110**	**110**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Carbon Disulfide	**8000**	**8000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chlorobenzene	**1600**	**1600**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chloroethane	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chloroform	**32**	**32**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chloromethane	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
cis-1,2-Dichloroethene	**160**	**160**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Dichlorodifluoromethane (CFC-12)	**16000**	**16000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Ethylbenzene	**1.6**	**0.081**	mg/Kg	0.0020 U	0.0020 U	0.0050 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0050 U	0.0050 U	0.0050 U
Isopropylbenzene (Cumene)	**8000**	**8000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	VADOSE HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	VADOSE HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL
			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL
			Location ID:	DMC*MW-01	DMC*MW-01	DMC*MW-01	MW-2	MW-2	MW-2	DMC*MW-03	DMC*MW-03	DMC*MW-03	DMC*MW-04	SB-1	SB-1
			Sample ID:	MW-1-3.5	MW-1-8.5	MW-1-13.5	MW-2-3.5	MW-2-13.5	MW-2-18.5	MW-3-3.5	MW-3-13.5	MW-3-18.5	MW-4-3.5	SB-1-3.5	SB-1-11.5
			Sample Depth:	3-3.5 ft	8-8.5 ft	13-13.5 ft	3-3.5 ft	13-13.5 ft	18-18.5 ft	3-3.5 ft	13-13.5 ft	18-18.5 ft	3-3.5 ft	3-3.5 ft	11-11.5 ft
			Date Sampled:	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/25/90	10/26/90	10/26/90	10/26/90
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
Methyl Iodide (Iodomethane)	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Methylene Chloride	480	480	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
n-Butylbenzene	4000	4000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
n-Propylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
p-Isopropyltoluene	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Sec-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Styrene	16000	16000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Tert-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Tetrachloroethene	480	480	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Toluene	6400	6400	mg/Kg	0.0020 U	0.0020 U	0.0050 U	0.0020 U	0.0020 U	0.0020 U	**0.0023**	0.0020 U	0.0020 U	0.0050 U	0.0050 U	0.0050 U
Trans-1,2-Dichloroethene	1600	1600	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Trichloroethene	12	12	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Trichlorofluoromethane (CFC-11)	24000	24000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Vinyl Chloride	0.67	0.67	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Xylene, m-,p-	16000	16000	mg/Kg	0.0020 U	0.0020 U	0.0050 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0050 U	0.0050 U	0.0050 U
Xylene, o-	16000	16000	mg/Kg	0.0020 U	0.0020 U	0.0050 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0050 U	0.0050 U	0.0050 U

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	VADOSE	VADOSE	VADOSE	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED
			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL
			Location ID:	SB-2	SB-2	SB-3	SB-3	SB-4	SB-4	SB-4	SB-4	SB-4	SB-4	SB-5	SB-5
			Sample ID:	SB-2-3.5	SB-2-8.5	SB-3-3.5	SB-3-11.5	SB-4-8	SB-4-13	SB-4-18	SB-4-23	SB-4-28	SB-4-33	SB-5-13	SB-5-18
			Sample Depth:	3-3.5 ft	8-8.5 ft	3-3.5 ft	11-11.5 ft	8-8.5 ft	13-13.5 ft	18-18.5 ft	23-23.5 ft	28-28.5 ft	33-33.5 ft	13-13.5 ft	18-18.5 ft
			Date Sampled:	10/26/90	10/26/90	10/26/90	10/26/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
TPH															
Total Petroleum Hydrocarbons[1]	**2000**	**2000**	mg/Kg	**57**	**350**	**99**	**31**	**130**	**207**	**460**	**240**	**450**	**55**	**210**	**3600**
Gasoline-range hydrocarbons	**30**	**30**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Diesel-range hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Diesel plus Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
VOCs															
1,1,1-Trichloroethane	**160000**	**160000**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**2400000**	**2400000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloroethane	**0.019**	**0.0010**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
1,1-Dichloroethane	**180**	**180**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
1,1-Dichloropropene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,3-Trichlorobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trichlorobenzene	**34**	**34**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trimethylbenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichlorobenzene (o-Dichlorobenzene)	**7200**	**7200**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
1,2-Dichloroethane	**11**	**11**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
1,2-Dichloropropane	**28**	**28**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
1,3,5-Trimethylbenzene	**800**	**800**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,3-Dichlorobenzene (m-Dichlorobenzene)	**NE**	**NE**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
1,4-Dichlorobenzene (p-Dichlorobenzene)	**180**	**180**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
2-Butanone (MEK)	**48000**	**48000**	mg/Kg	–	–	–	–	0.01 U	–	–	–	–	–	0.01 U	–
2-Chlorotoluene	**1600**	**1600**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
2-Hexanone	**NE**	**NE**	mg/Kg	–	–	–	–	0.01 U	–	–	–	–	–	0.01 U	–
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**6400**	**6400**	mg/Kg	–	–	–	–	0.01 U	–	–	–	–	–	0.01 U	–
Acetone	**72000**	**72000**	mg/Kg	–	–	–	–	**0.22**	–	–	–	–	–	**0.094**	–
Benzene	**0.030**	**0.0016**	mg/Kg	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0010 U	–	–	–	–	–	0.0010 U	–
Bromobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Bromomethane	**110**	**110**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Carbon Disulfide	**8000**	**8000**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Chlorobenzene	**1600**	**1600**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Chloroethane	**NE**	**NE**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Chloroform	**32**	**32**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Chloromethane	**NE**	**NE**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
cis-1,2-Dichloroethene	**160**	**160**	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Dichlorodifluoromethane (CFC-12)	**16000**	**16000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Ethylbenzene	**1.6**	**0.081**	mg/Kg	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0010 U	–	–	–	–	–	0.0010 U	–
Isopropylbenzene (Cumene)	**8000**	**8000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	VADOSE HISTORICAL	VADOSE HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	VADOSE HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL	SATURATED HISTORICAL
			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL
			Location ID:	SB-2	SB-2	SB-3	SB-3	SB-4	SB-4	SB-4	SB-4	SB-4	SB-4	SB-5	SB-5
			Sample ID:	SB-2-3.5	SB-2-8.5	SB-3-3.5	SB-3-11.5	SB-4-8	SB-4-13	SB-4-18	SB-4-23	SB-4-28	SB-4-33	SB-5-13	SB-5-18
			Sample Depth:	3-3.5 ft	8-8.5 ft	3-3.5 ft	11-11.5 ft	8-8.5 ft	13-13.5 ft	18-18.5 ft	23-23.5 ft	28-28.5 ft	33-33.5 ft	13-13.5 ft	18-18.5 ft
			Date Sampled:	10/26/90	10/26/90	10/26/90	10/26/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90	12/06/90
Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units												
Methyl Iodide (Iodomethane)	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Methylene Chloride	480	480	mg/Kg	–	–	–	–	0.11	–	–	–	–	–	0.054	–
n-Butylbenzene	4000	4000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
n-Propylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
p-Isopropyltoluene	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Sec-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Styrene	16000	16000	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Tert-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Tetrachloroethene	480	480	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Toluene	6400	6400	mg/Kg	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0010 U	–	–	–	–	–	0.0010 U	–
Trans-1,2-Dichloroethene	1600	1600	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Trichloroethene	12	12	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Trichlorofluoromethane (CFC-11)	24000	24000	mg/Kg	–	–	–	–	0.01 U	–	–	–	–	–	0.01 U	–
Vinyl Chloride	0.67	0.67	mg/Kg	–	–	–	–	0.0010 U	–	–	–	–	–	0.0010 U	–
Xylene, m-,p-	16000	16000	mg/Kg	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0010 U	–	–	–	–	–	0.0010 U	–
Xylene, o-	16000	16000	mg/Kg	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0010 U	–	–	–	–	–	0.0010 U	–

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	SATURATED	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE
			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	RI/FS_RND_1
			Location ID:	SB-5	SB-5	SB-5	SG-1	SG-1	DMC*SB-08	DMC*SB-09	DMC*SB-10	DMC*SB-11	DMC*SB-12	DMC*SB-12	DP-1
			Sample ID:	SB-5-23	SB-5-28	SB-5-33	SG-1-3.5	SG-1-11.5	MW-08-30	MW-09-15	MW-10-20	MW-11-15	MW-12-15	MW-12-25	DP-1-10.0
			Sample Depth:	23-23.5 ft	28-28.5 ft	33-33.5 ft	3-3.5 ft	11-11.5 ft	30-31.5 ft	15-16.5 ft	20-21.5 ft	15-16.5 ft	15-16.5 ft	25-26.5 ft	10-11 ft
			Date Sampled:	12/06/90	12/06/90	12/06/90	10/26/90	10/26/90	06/18/08	06/18/08	06/18/08	06/19/08	06/19/08	06/19/08	07/08/13
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
TPH															
Total Petroleum Hydrocarbons[1]	**2000**	**2000**	mg/Kg	**110**	**340**	**59**	**2800**	**18**	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**30**	**30**	mg/Kg	–	–	–	–	–	**7.7 J**	–	–	–	**100 J**	–	8.8 U
Diesel-range hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	**670 J**	**43 J**	**72 J**	–	**410 J**	**90 J**	5.4 U
Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	**970 J**	**100 J**	**180 J**	–	**490 J**	**290 J**	**13**
Diesel plus Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	–	–	–	–	–	**1640 J**	**143 J**	**252 J**	–	**900 J**	**380 J**	**13**
VOCs															
1,1,1-Trichloroethane	**160000**	**160000**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**2400000**	**2400000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloroethane	**0.019**	**0.0010**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
1,1-Dichloroethane	**180**	**180**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
1,1-Dichloropropene	**NE**	**NE**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
1,2,3-Trichlorobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	0.027 U	0.025 U	0.032 U	0.022 U	0.21 U	0.023 U	–
1,2,4-Trichlorobenzene	**34**	**34**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trimethylbenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	**0.0066 J**	0.025 U	**0.011 J**	**0.00017 J**	**0.38**	**0.0015 J**	–
1,2-Dichlorobenzene (o-Dichlorobenzene)	**7200**	**7200**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
1,2-Dichloroethane	**11**	**11**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
1,2-Dichloropropane	**28**	**28**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
1,3,5-Trimethylbenzene	**800**	**800**	mg/Kg	–	–	–	–	–	**0.0026 J**	0.025 U	**0.0047 J**	0.022 U	**0.091 J**	0.023 U	–
1,3-Dichlorobenzene (m-Dichlorobenzene)	**NE**	**NE**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	**0.00038 J**	0.0055 U	0.053 U	0.0056 U	–
1,4-Dichlorobenzene (p-Dichlorobenzene)	**180**	**180**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	**0.00075 J**	0.0055 U	0.053 U	0.0056 U	–
2-Butanone (MEK)	**48000**	**48000**	mg/Kg	–	–	–	–	–	0.027 U	0.025 U	0.032 U	**0.0042 J**	2.1 U	**0.0065 J**	–
2-Chlorotoluene	**1600**	**1600**	mg/Kg	–	–	–	–	–	0.027 U	0.025 U	0.032 U	0.022 U	0.21 U	0.023 U	–
2-Hexanone	**NE**	**NE**	mg/Kg	–	–	–	–	–	0.027 U	0.025 U	0.032 U	0.022 U	2.1 U	0.023 U	–
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**6400**	**6400**	mg/Kg	–	–	–	–	–	0.027 U	0.025 U	0.032 U	0.022 U	2.1 U	0.023 U	–
Acetone	**72000**	**72000**	mg/Kg	–	–	–	–	–	**0.047**	**0.032**	**0.051**	**0.027**	**0.31 J**	**0.038**	–
Benzene	**0.030**	**0.0016**	mg/Kg	–	–	–	**0.097**	**0.01**	0.0068 U	0.0062 U	**0.052**	0.0055 U	**0.071**	**0.014**	0.022 U
Bromobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.21 U	0.0056 U	–
Bromomethane	**110**	**110**	mg/Kg	–	–	–	–	–	0.0068 U	**0.0011 J**	**0.0012 J**	0.0055 U	0.053 U	**0.0025 J**	–
Carbon Disulfide	**8000**	**8000**	mg/Kg	–	–	–	–	–	**0.0014 J**	**0.002 J**	**0.0034 J**	**0.0022 J**	0.053 U	**0.0039 J**	–
Chlorobenzene	**1600**	**1600**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Chloroethane	**NE**	**NE**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Chloroform	**32**	**32**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Chloromethane	**NE**	**NE**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	**0.022 J**	**0.00048 J**	–
cis-1,2-Dichloroethene	**160**	**160**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Dichlorodifluoromethane (CFC-12)	**16000**	**16000**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	**0.055**	**0.0097**	–
Ethylbenzene	**1.6**	**0.081**	mg/Kg	–	–	–	0.0050 U	0.0050 U	**0.0024 J**	**0.00025 J**	**0.0033 J**	0.0055 U	**0.085**	**0.0006 J**	0.022 U
Isopropylbenzene (Cumene)	**8000**	**8000**	mg/Kg	–	–	–	–	–	**0.0079 J**	0.025 U	**0.0061 J**	0.022 U	**0.11 J**	**0.001 J**	–

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	SATURATED	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE
			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	RI/FS_RND_1
			Location ID:	SB-5	SB-5	SB-5	SG-1	SG-1	DMC*SB-08	DMC*SB-09	DMC*SB-10	DMC*SB-11	DMC*SB-12	DMC*SB-12	DP-1
			Sample ID:	SB-5-23	SB-5-28	SB-5-33	SG-1-3.5	SG-1-11.5	MW-08-30	MW-09-15	MW-10-20	MW-11-15	MW-12-15	MW-12-25	DP-1-10.0
			Sample Depth:	23-23.5 ft	28-28.5 ft	33-33.5 ft	3-3.5 ft	11-11.5 ft	30-31.5 ft	15-16.5 ft	20-21.5 ft	15-16.5 ft	15-16.5 ft	25-26.5 ft	10-11 ft
			Date Sampled:	12/06/90	12/06/90	12/06/90	10/26/90	10/26/90	06/18/08	06/18/08	06/18/08	06/19/08	06/19/08	06/19/08	07/08/13
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
Methyl Iodide (Iodomethane)	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Methylene Chloride	**480**	**480**	mg/Kg	–	–	–	–	–	0.014 U	**0.00033 J**	**0.00056 J**	**0.00041 J**	**0.095 J**	**0.0023 J**	–
n-Butylbenzene	**4000**	**4000**	mg/Kg	–	–	–	–	–	**0.00095 J**	0.025 U	**0.0026 J**	0.022 U	**0.4**	**0.0047 J**	–
n-Propylbenzene	**8000**	**8000**	mg/Kg	–	–	–	–	–	**0.0016 J**	0.025 U	**0.0028 J**	0.022 U	**0.54**	**0.0048 J**	–
p-Isopropyltoluene	**NE**	**NE**	mg/Kg	–	–	–	–	–	**0.0011 J**	0.025 U	**0.0026 J**	0.022 U	0.21 U	0.023 U	–
Sec-Butylbenzene	**8000**	**8000**	mg/Kg	–	–	–	–	–	**0.0013 J**	0.025 U	**0.0034 J**	0.022 U	**0.12 J**	**0.0015 J**	–
Styrene	**16000**	**16000**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Tert-Butylbenzene	**8000**	**8000**	mg/Kg	–	–	–	–	–	0.027 U	0.025 U	0.032 U	0.022 U	0.21 U	0.023 U	–
Tetrachloroethene	**480**	**480**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	**0.016 J**	0.0056 U	–
Toluene	**6400**	**6400**	mg/Kg	–	–	–	**0.013**	0.0050 U	**0.00098 J**	**0.00045 J**	**0.0014 J**	**0.00065 J**	**0.18**	**0.0014 J**	0.022 U
Trans-1,2-Dichloroethene	**1600**	**1600**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Trichloroethene	**12**	**12**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Trichlorofluoromethane (CFC-11)	**24000**	**24000**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Vinyl Chloride	**0.67**	**0.67**	mg/Kg	–	–	–	–	–	0.0068 U	0.0062 U	0.0079 U	0.0055 U	0.053 U	0.0056 U	–
Xylene, m-,p-	**16000**	**16000**	mg/Kg	–	–	–	**0.018**	0.0050 U	**0.0049 J**	0.0062 U	**0.0034 J**	**0.00022 J**	**0.32**	**0.0016 J**	0.044 U
Xylene, o-	**16000**	**16000**	mg/Kg	–	–	–	0.0050 U	0.0050 U	**0.0024 J**	0.0062 U	**0.002 J**	0.0055 U	**0.085**	**0.00049 J**	0.022 U

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units	Sample Description	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	VADOSE	SATURATED	VADOSE	VADOSE	VADOSE	SATURATED	SATURATED
				Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
				Location ID:	DP-1	DP-1	DP-2	DP-2	DP-3	DP-4	DP-4	DP-5	DP-6	DP-6	DP-6	DP-7
				Sample ID:	DP-1-12.5	DP-1-12.5-DUP	DP-2-7.5	DP-2-12.5	DP-3-12.5	DP-4-7.5	DP-4-12.5	DP-5-7.5	DP-6-5.0	DP-6-7.5	DP-6-12.5	DP-7-12.5
				Sample Depth:	12.5-13.5 ft	12.5-13.5 ft	7.5-8.5 ft	12.5-13.5 ft	12.5-13.5 ft	7.5-8.5 ft	12.5-13.5 ft	7.5-8.5 ft	5-6 ft	7.5-8.5 ft	12.5-13.5 ft	12.5-13.5 ft
				Date Sampled:	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13
TPH																
Total Petroleum Hydrocarbons[1]	2000	2000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	30	30	mg/Kg	8.5 U	7.7 U	9.0	11 U	6.7 U	10 U	9.5 U	14	380	51	75	9.1 U
Diesel-range hydrocarbons	2000	2000	mg/Kg	30	24	160	53	13	25	60	52	380	210	34	49
Lube Oil-range Hydrocarbons	2000	2000	mg/Kg	54	45	640	100	22	44	110	90	480	520	63	96
Diesel plus Lube Oil-range Hydrocarbons	2000	2000	mg/Kg	84	69	800	153	35	69	170	142	860	730	97	145
VOCs																
1,1,1-Trichloroethane	160000	160000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	2400000	2400000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloroethane	0.019	0.0010	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloroethane	180	180	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloropropene	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,3-Trichlorobenzene	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trichlorobenzene	34	34	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trimethylbenzene	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichlorobenzene (o-Dichlorobenzene)	7200	7200	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloroethane	11	11	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloropropane	28	28	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,3,5-Trimethylbenzene	800	800	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,3-Dichlorobenzene (m-Dichlorobenzene)	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
1,4-Dichlorobenzene (p-Dichlorobenzene)	180	180	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
2-Butanone (MEK)	48000	48000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
2-Chlorotoluene	1600	1600	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
2-Hexanone	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	6400	6400	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Acetone	72000	72000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Benzene	0.030	0.0016	mg/Kg	0.021 UJ	0.075 J	0.031	0.027 U	0.017 U	0.026 U	0.3	0.1	0.11	0.016 U	0.024 U	0.023 U
Bromobenzene	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Bromomethane	110	110	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Carbon Disulfide	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chlorobenzene	1600	1600	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chloroethane	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chloroform	32	32	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Chloromethane	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
cis-1,2-Dichloroethene	160	160	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Dichlorodifluoromethane (CFC-12)	16000	16000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Ethylbenzene	1.6	0.081	mg/Kg	0.021 U	0.019 U	0.031	0.027 U	0.017 U	0.026 U	0.024 U	0.023 U	0.014 U	0.016 U	0.024 U	0.023 U
Isopropylbenzene (Cumene)	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	VADOSE	SATURATED	VADOSE	VADOSE	VADOSE	SATURATED	SATURATED
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	DP-1	DP-1	DP-2	DP-2	DP-3	DP-4	DP-4	DP-5	DP-6	DP-6	DP-6	DP-7
			Sample ID:	DP-1-12.5	DP-1-12.5-DUP	DP-2-7.5	DP-2-12.5	DP-3-12.5	DP-4-7.5	DP-4-12.5	DP-5-7.5	DP-6-5.0	DP-6-7.5	DP-6-12.5	DP-7-12.5
			Sample Depth:	12.5-13.5 ft	12.5-13.5 ft	7.5-8.5 ft	12.5-13.5 ft	12.5-13.5 ft	7.5-8.5 ft	12.5-13.5 ft	7.5-8.5 ft	5-6 ft	7.5-8.5 ft	12.5-13.5 ft	12.5-13.5 ft
			Date Sampled:	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
Methyl Iodide (Iodomethane)	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Methylene Chloride	480	480	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
n-Butylbenzene	4000	4000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
n-Propylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
p-Isopropyltoluene	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Sec-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Styrene	16000	16000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Tert-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Tetrachloroethene	480	480	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Toluene	6400	6400	mg/Kg	0.021 U	**0.021**	**0.021**	**0.043**	0.017 U	0.026 U	0.024 U	**0.05**	**0.21**	0.016 U	0.024 U	**0.023**
Trans-1,2-Dichloroethene	1600	1600	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Trichloroethene	12	12	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Trichlorofluoromethane (CFC-11)	24000	24000	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Vinyl Chloride	0.67	0.67	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Xylene, m-,p-	16000	16000	mg/Kg	0.043 U	0.038 U	**0.042**	**0.1**	0.033 U	0.051 U	**0.081**	0.046 U	**0.68**	**0.061**	**0.093**	0.046 U
Xylene, o-	16000	16000	mg/Kg	0.021 U	0.019 U	**0.021**	0.027 U	0.017 U	0.026 U	**0.031**	0.023 U	**0.21**	0.016 U	0.024 U	0.023 U

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	SATURATED	VADOSE	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	VADOSE
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	DP-8	DP-10	DP-10	DP-10	DP-10	DP-10	DP-11	MW-2R	MW-13	MW-13	MW-13	MW-13	MW-14
			Sample ID:	DP-8-12.5	DP-10-10.0	DP-10-5.0	DP-10-12.5	DP-10-12.5-DUP	DP-10-15.0	DP-11-12.5	MW-2R-10.0	MW-13-12.5	MW-13-25.0	MW-13-32.5	MW-14-7.5
			Sample Depth:	12.5-13.5 ft	10-11 ft	5-6 ft	12.5-13.5 ft	12.5-13.5 ft	15-16 ft	12.5-13.5 ft	10-11 ft	12.5-13.5 ft	25-26 ft	32.5-33.5 ft	7.5-8.5 ft
			Date Sampled:	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/11/13	07/12/13	07/12/13	07/12/13	07/09/13
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
TPH															
Total Petroleum Hydrocarbons[1]	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**30**	**30**	mg/Kg	8.1 U	**820**	7.1 U	**4500 J**	**2200 J**	**14**	**29**	7.3 U	7.8 U	10 U	10 U	8.4 U
Diesel-range hydrocarbons	**2000**	**2000**	mg/Kg	**55**	**320**	**38**	**87**	**69**	**42**	**23**	**8.4**	**11**	**640**	**60**	**28**
Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	**100**	**140**	**130**	**160**	**120**	**60**	**32**	**17**	**22**	**1300**	**170**	**66**
Diesel plus Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	**155**	**460**	**168**	**247**	**189**	**102**	**55**	**25.4**	**33**	**1940**	**230**	**94**
VOCs															
1,1,1-Trichloroethane	**160000**	**160000**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**2400000**	**2400000**	mg/Kg	–	–	–	–	–	–	–	0.0024 U	0.0021 U	0.0027 U	0.0031 U	0.0026 U
1,1,2-Trichloroethane	**0.019**	**0.0010**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,1-Dichloroethane	**180**	**180**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,1-Dichloropropene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,2,3-Trichlorobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	0.0060 U	0.0054 U	0.0069 U	0.0077 U	0.0066 U
1,2,4-Trichlorobenzene	**34**	**34**	mg/Kg	–	–	–	–	–	–	–	0.0060 U	0.0054 U	0.0069 U	0.0077 U	0.0066 U
1,2,4-Trimethylbenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	**0.0007 J**	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	**7200**	**7200**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,2-Dichloroethane	**11**	**11**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,2-Dichloropropane	**28**	**28**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,3,5-Trimethylbenzene	**800**	**800**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**180**	**180**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
2-Butanone (MEK)	**48000**	**48000**	mg/Kg	–	–	–	–	–	–	–	0.0060 U	0.0054 U	**0.0042 J**	**0.09**	**0.036**
2-Chlorotoluene	**1600**	**1600**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
2-Hexanone	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	0.0060 U	0.0054 U	0.0069 U	0.0077 U	0.0066 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**6400**	**6400**	mg/Kg	–	–	–	–	–	–	–	0.0060 U	0.0054 U	0.0069 U	0.0077 U	0.0066 U
Acetone	**72000**	**72000**	mg/Kg	–	–	–	–	–	–	–	**0.032**	**0.032**	**0.048**	**0.59**	**0.3**
Benzene	**0.030**	**0.0016**	mg/Kg	0.02 U	0.015 U	**0.026**	**1.6 J**	**0.89 J**	**0.27**	0.02 U	**0.015**	**0.0009 J**	0.0014 U	**0.0008 J**	0.0013 U
Bromobenzene	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Bromomethane	**110**	**110**	mg/Kg	–	–	–	–	–	–	–	0.0012 UJ	0.0011 UJ	0.0014 UJ	0.0015 UJ	0.0013 U
Carbon Disulfide	**8000**	**8000**	mg/Kg	–	–	–	–	–	–	–	**0.0054**	**0.0019**	**0.0063**	**0.011**	**0.0053**
Chlorobenzene	**1600**	**1600**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Chloroethane	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Chloroform	**32**	**32**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Chloromethane	**NE**	**NE**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
cis-1,2-Dichloroethene	**160**	**160**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Dichlorodifluoromethane (CFC-12)	**16000**	**16000**	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Ethylbenzene	**1.6**	**0.081**	mg/Kg	0.02 U	**0.73**	0.018 U	**8.8**	**7.2**	0.024 U	0.02 U	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Isopropylbenzene (Cumene)	**8000**	**8000**	mg/Kg	–	–	–	–	–	–	–	**0.0018**	0.0011 U	0.0014 U	0.0015 U	0.0013 U

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	SATURATED	VADOSE	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	VADOSE
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	DP-8	DP-10	DP-10	DP-10	DP-10	DP-10	DP-11	MW-2R	MW-13	MW-13	MW-13	MW-14
			Sample ID:	DP-8-12.5	DP-10-10.0	DP-10-5.0	DP-10-12.5	DP-10-12.5-DUP	DP-10-15.0	DP-11-12.5	MW-2R-10.0	MW-13-12.5	MW-13-25.0	MW-13-32.5	MW-14-7.5
			Sample Depth:	12.5-13.5 ft	10-11 ft	5-6 ft	12.5-13.5 ft	12.5-13.5 ft	15-16 ft	12.5-13.5 ft	10-11 ft	12.5-13.5 ft	25-26 ft	32.5-33.5 ft	7.5-8.5 ft
			Date Sampled:	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/08/13	07/11/13	07/12/13	07/12/13	07/12/13	07/09/13
Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units												
Methyl Iodide (Iodomethane)	NE	NE	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Methylene Chloride	480	480	mg/Kg	–	–	–	–	–	–	–	**0.0074**	0.0075 U	0.0053 U	**0.11**	**0.054**
n-Butylbenzene	4000	4000	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
n-Propylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	**0.0021**	0.0011 U	0.0014 U	0.0015 U	0.0013 U
p-Isopropyltoluene	NE	NE	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Sec-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Styrene	16000	16000	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Tert-Butylbenzene	8000	8000	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Tetrachloroethene	480	480	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Toluene	6400	6400	mg/Kg	0.02 U	**0.025**	**0.019**	0.024 UJ	**0.94 J**	0.024 U	0.02 U	**0.0018**	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Trans-1,2-Dichloroethene	1600	1600	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Trichloroethene	12	12	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Trichlorofluoromethane (CFC-11)	24000	24000	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Vinyl Chloride	0.67	0.67	mg/Kg	–	–	–	–	–	–	–	0.0012 U	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Xylene, m-,p-	16000	16000	mg/Kg	0.04 U	**0.15**	**0.068**	**3 J**	**1.5 J**	0.049 U	0.039 U	**0.0077**	0.0011 U	0.0014 U	0.0015 U	0.0013 U
Xylene, o-	16000	16000	mg/Kg	0.02 U	**0.12**	**0.038**	0.024 UJ	**0.97 J**	0.024 U	0.02 U	**0.0008 J**	0.0011 U	0.0014 U	0.0015 U	0.0013 U

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	MW-14	MW-14	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17
			Sample ID:	MW-14-17.5	MW-14-30.0	MW-15-12.5	MW-15-22.5	MW-15-35.0	MW-16-12.5	MW-16-25.0	MW-16-30.0	MW-17-12.5	MW-17-27.5	MW-17-30.0	MW-17-30.0-DUP
			Sample Depth:	17.5-18.5 ft	30-31 ft	12.5-13.5 ft	22.5-23.5 ft	35-36 ft	12.5-13.5 ft	25-26 ft	30-31 ft	12.5-13.5 ft	27.5-28.5 ft	30-31 ft	30-31 ft
			Date Sampled:	07/09/13	07/09/13	07/09/13	07/09/13	07/09/13	07/10/13	07/10/13	07/10/13	07/12/13	07/12/13	07/12/13	07/12/13
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**												
TPH															
Total Petroleum Hydrocarbons[1]	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**30**	**30**	mg/Kg	10 U	**97**	8.7 U	9.4 U	11 U	9.1 U	**150**	7.8 U	7.5 U	**2400**	12 U	11 U
Diesel-range hydrocarbons	**2000**	**2000**	mg/Kg	**98**	**520**	**99**	**500**	**31**	**57**	**3000**	**30**	**22**	**2100**	**52**	**68**
Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	**220**	**900**	**450**	**930**	**62**	**100**	**3800**	**65**	**57**	**4400**	**110**	**160**
Diesel plus Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	**318**	**1420**	**549**	**1430**	**93**	**157**	**6800**	**95**	**79**	**6300**	**162**	**228**
VOCs															
1,1,1-Trichloroethane	**160000**	**160000**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**2400000**	**2400000**	mg/Kg	0.0026 U	0.0034 U	0.0025 U	0.0027 U	0.0030 U	0.0025 U	0.0039 U	0.0026 U	0.0023 U	1.8 U	0.0037 U	0.0034 U
1,1,2-Trichloroethane	**0.019**	**0.0010**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,1-Dichloroethane	**180**	**180**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,1-Dichloropropene	**NE**	**NE**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,2,3-Trichlorobenzene	**NE**	**NE**	mg/Kg	0.0066 U	0.0086 U	0.0062 U	0.0069 U	0.0074 U	0.0063 U	0.0097 U	0.0064 U	0.0057 U	4.4 U	0.0092 U	0.0084 U
1,2,4-Trichlorobenzene	**34**	**34**	mg/Kg	0.0066 U	0.0086 U	0.0062 U	0.0069 U	0.0074 U	0.0063 U	0.0097 U	0.0064 U	0.0057 U	4.4 U	0.0092 U	0.0084 U
1,2,4-Trimethylbenzene	**NE**	**NE**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	**0.0078**	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	**7200**	**7200**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	**0.56 J**	0.0018 U	0.0017 U
1,2-Dichloroethane	**11**	**11**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,2-Dichloropropane	**28**	**28**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,3,5-Trimethylbenzene	**800**	**800**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	**0.0020**	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	**NE**	**NE**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**180**	**180**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	**2.3**	0.0018 U	0.0017 U
2-Butanone (MEK)	**48000**	**48000**	mg/Kg	0.0066 U	**0.11**	0.0062 U	**0.025**	0.0074 U	0.0063 U	0.0097 U	**0.013**	**0.0030 J**	4.4 U	**0.011 J**	**0.039 J**
2-Chlorotoluene	**1600**	**1600**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
2-Hexanone	**NE**	**NE**	mg/Kg	0.0066 U	0.0086 U	0.0062 U	0.0069 UJ	0.0074 U	0.0063 U	**0.0098**	0.0064 U	0.0057 U	4.4 U	0.0092 U	0.0084 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**6400**	**6400**	mg/Kg	0.0066 U	0.0086 U	0.0062 U	0.0069 UJ	0.0074 U	0.0063 U	0.0097 U	0.0064 U	0.0057 U	4.4 U	0.0092 U	0.0084 U
Acetone	**72000**	**72000**	mg/Kg	**0.038**	**0.71**	**0.069**	**0.22**	**0.051**	0.036 U	0.0097 U	0.08 U	**0.039**	4.4 U	**0.1 J**	**0.29 J**
Benzene	**0.030**	**0.0016**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	**0.0018**	0.0015 U	**0.052**	**0.0027**	0.0013 U	**0.0008 J**	0.88 U	0.0018 U	**0.0013 J**
Bromobenzene	**NE**	**NE**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Bromomethane	**110**	**110**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	**0.0037**	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 UJ	1.8 UJ	0.0018 UJ	0.0017 UJ
Carbon Disulfide	**8000**	**8000**	mg/Kg	**0.0075**	**0.02**	**0.0026**	0.0014 U	**0.0037**	**0.0040**	**0.015**	**0.0071**	**0.0048**	0.88 U	**0.013 J**	**0.036 J**
Chlorobenzene	**1600**	**1600**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Chloroethane	**NE**	**NE**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Chloroform	**32**	**32**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Chloromethane	**NE**	**NE**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
cis-1,2-Dichloroethene	**160**	**160**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Dichlorodifluoromethane (CFC-12)	**16000**	**16000**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Ethylbenzene	**1.6**	**0.081**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	**64**	**0.0099 J**	**0.0056 J**
Isopropylbenzene (Cumene)	**8000**	**8000**	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	**0.0051**	0.0013 U	0.0011 U	**1.2**	0.0018 U	0.0017 U

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site

Seattle, Washington

			Sample Description	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	MW-14	MW-14	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17
			Sample ID:	MW-14-17.5	MW-14-30.0	MW-15-12.5	MW-15-22.5	MW-15-35.0	MW-16-12.5	MW-16-25.0	MW-16-30.0	MW-17-12.5	MW-17-27.5	MW-17-30.0	MW-17-30.0-DUP
			Sample Depth:	17.5-18.5 ft	30-31 ft	12.5-13.5 ft	22.5-23.5 ft	35-36 ft	12.5-13.5 ft	25-26 ft	30-31 ft	12.5-13.5 ft	27.5-28.5 ft	30-31 ft	30-31 ft
			Date Sampled:	07/09/13	07/09/13	07/09/13	07/09/13	07/09/13	07/10/13	07/10/13	07/10/13	07/12/13	07/12/13	07/12/13	07/12/13
Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units												
Methyl Iodide (Iodomethane)	NE	NE	mg/Kg	0.0013 U	**0.0021**	0.0012 U	**0.048**	**0.0029**	0.0013 U	0.0019 U	0.0013 U	0.0011 U	**0.82 J**	0.0018 U	0.0017 U
Methylene Chloride	480	480	mg/Kg	0.012 U	**0.079**	0.0089 U	**0.044**	0.012 U	0.0053 U	0.0080 U	0.02 U	0.0067 U	1.8 U	0.0048 U	0.0065 U
n-Butylbenzene	4000	4000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	**1.7**	0.0018 U	0.0017 U
n-Propylbenzene	8000	8000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	**0.0023**	0.0013 U	0.0011 U	**2.5**	0.0018 U	0.0017 U
p-Isopropyltoluene	NE	NE	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Sec-Butylbenzene	8000	8000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	**0.0027**	0.0013 U	0.0011 U	**1.7**	0.0018 U	0.0017 U
Styrene	16000	16000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Tert-Butylbenzene	8000	8000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Tetrachloroethene	480	480	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Toluene	6400	6400	mg/Kg	0.0013 U	0.0017 U	**0.0061**	0.0014 UJ	0.0015 U	**0.0008 J**	**0.0015 J**	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Trans-1,2-Dichloroethene	1600	1600	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Trichloroethene	12	12	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	**0.0052**	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Trichlorofluoromethane (CFC-11)	24000	24000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Vinyl Chloride	0.67	0.67	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 U	0.0015 U	0.0013 U	0.0019 U	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U
Xylene, m-,p-	16000	16000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	**0.0022**	0.0013 U	0.0011 U	1.8 U	0.0018 U	0.0017 U
Xylene, o-	16000	16000	mg/Kg	0.0013 U	0.0017 U	0.0012 U	0.0014 UJ	0.0015 U	0.0013 U	**0.0035**	0.0013 U	0.0011 U	0.88 U	0.0018 U	0.0017 U

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units	Sample Description: SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	VADOSE	VADOSE
Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
Location ID:	MW-18	MW-18	MW-18	MW-19	MW-19	MW-19	MW-19	MW-19	MW-2R	MW-2R	MW-2R	MW-2R	HA-1	HA-2	HA-3
Sample ID:	MW-18-12.5	MW-18-27.5	MW-18-35.0	MW-19-12.5	MW-19-12.5-DUP	MW-19-20.0	MW-19-32.5	MW-2R-20.0	MW-2R-20.0-DUP	MW-2R-32.5-DUP	HA-1-0.5	HA-2-0.5	HA-3-0.5
Sample Depth:	12.5-13.5 ft	27.5-28.5 ft	35-36 ft	12.5-13.5 ft	12.5-13.5 ft	20-21 ft	32.5-33.5 ft	20-21 ft	20-21 ft	32.5-33.5 ft	0.5-1.5 ft	0.5-1.5 ft	0.5-1.5 ft
Date Sampled:	07/11/13	07/11/13	07/11/13	07/10/13	07/10/13	07/10/13	07/10/13	07/11/13	07/11/13	07/11/13	07/10/13	07/10/13	07/10/13
TPH																
Total Petroleum Hydrocarbons+B14:B3B14:B17	**2000**	**2000**	mg/Kg	–	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**30**	**30**	mg/Kg	8.1 U	13 U	7.9 U	7.4 U	9.2 U	9.1 U	12 U	8.3 U	9.0 U	7.4 U	–	–	–
Diesel-range hydrocarbons	**2000**	**2000**	mg/Kg	**26**	**1900**	**60**	**110**	**100**	**100**	**89**	**50 J**	**85 J**	**140**	**160**	**91**	**110**
Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	**47**	**2200**	**93**	**460**	**470**	**190**	**170**	**83**	**110**	**85**	**410**	**280**	**340**
Diesel plus Lube Oil-range Hydrocarbons	**2000**	**2000**	mg/Kg	**73**	**4100**	**153**	**570**	**570**	**290**	**259**	**133 J**	**195 J**	**225**	**570**	**371**	**450**
VOCs																
1,1,1-Trichloroethane	**160000**	**160000**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**2400000**	**2400000**	mg/Kg	0.0027 U	0.0040 U	0.0025 U	0.0023 U	0.0025 U	0.0029 U	0.0035 U	0.0026 U	0.0027 U	0.0023 U	–	–	–
1,1,2-Trichloroethane	**0.019**	**0.0010**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,1-Dichloroethane	**180**	**180**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,1-Dichloropropene	**NE**	**NE**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,2,3-Trichlorobenzene	**NE**	**NE**	mg/Kg	0.0068 U	0.01 U	0.0061 U	0.0058 U	0.0062 U	0.0072 U	0.0088 U	0.0066 U	0.0068 U	0.0057 U	–	–	–
1,2,4-Trichlorobenzene	**34**	**34**	mg/Kg	0.0068 U	0.01 U	0.0061 U	0.0058 U	0.0062 U	0.0072 U	0.0088 U	0.0066 U	0.0068 U	0.0057 U	–	–	–
1,2,4-Trimethylbenzene	**NE**	**NE**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0025**	**0.0018**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,2-Dichlorobenzene (o-Dichlorobenzene)	**7200**	**7200**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,2-Dichloroethane	**11**	**11**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,2-Dichloropropane	**28**	**28**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,3,5-Trimethylbenzene	**800**	**800**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0022**	**0.0012 J**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,3-Dichlorobenzene (m-Dichlorobenzene)	**NE**	**NE**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
1,4-Dichlorobenzene (p-Dichlorobenzene)	**180**	**180**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
2-Butanone (MEK)	**48000**	**48000**	mg/Kg	0.0068 U	**0.0073 J**	**0.011**	0.0058 U	0.0062 U	**0.013**	0.0088 U	**0.038**	**0.025**	**0.015**	–	–	–
2-Chlorotoluene	**1600**	**1600**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
2-Hexanone	**NE**	**NE**	mg/Kg	0.0068 U	0.01 U	0.0061 U	0.0058 U	0.0062 U	0.0072 U	0.0088 U	0.0066 U	0.0068 U	0.0057 U	–	–	–
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**6400**	**6400**	mg/Kg	0.0068 U	0.01 U	0.0061 U	0.0058 U	0.0062 U	0.0072 U	0.0088 U	0.0066 U	0.0068 U	0.0057 U	–	–	–
Acetone	**72000**	**72000**	mg/Kg	**0.032**	**0.082**	**0.082**	0.026 U	0.028 U	0.082 U	0.09 U	**0.22**	**0.16**	**0.1**	–	–	–
Benzene	**0.030**	**0.0016**	mg/Kg	0.0014 U	**0.0018 J**	0.0012 U	**0.027**	**0.024**	**0.0031**	0.0018 U	**0.014**	**0.017**	**0.0007 J**	–	–	–
Bromobenzene	**NE**	**NE**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Bromomethane	**110**	**110**	mg/Kg	0.0014 UJ	0.0020 UJ	0.0012 UJ	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 UJ	0.0014 UJ	0.0011 UJ	–	–	–
Carbon Disulfide	**8000**	**8000**	mg/Kg	**0.0051**	**0.0097**	**0.016**	**0.0038**	**0.0049**	**0.0098**	**0.0061**	**0.0076 J**	**0.016 J**	**0.0049**	–	–	–
Chlorobenzene	**1600**	**1600**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Chloroethane	**NE**	**NE**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Chloroform	**32**	**32**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Chloromethane	**NE**	**NE**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
cis-1,2-Dichloroethene	**160**	**160**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Dichlorodifluoromethane (CFC-12)	**16000**	**16000**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Ethylbenzene	**1.6**	**0.081**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0043 J**	**0.0012 J**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Isopropylbenzene (Cumene)	**8000**	**8000**	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.013**	**0.012**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–

Table G-1

RI Soil Analytical Data - TPH and VOC Results

7100 1st Avenue South Site
Seattle, Washington

			Sample Description	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	VADOSE	VADOSE
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	MW-18	MW-18	MW-18	MW-19	MW-19	MW-19	MW-19	MW-2R	MW-2R	MW-2R	HA-1	HA-2	HA-3
			Sample ID:	MW-18-12.5	MW-18-27.5	MW-18-35.0	MW-19-12.5	MW-19-12.5-DUP	MW-19-20.0	MW-19-32.5	MW-2R-20.0	MW-2R-20.0-DUP	MW-2R-32.5-DUP	HA-1-0.5	HA-2-0.5	HA-3-0.5
			Sample Depth:	12.5-13.5 ft	27.5-28.5 ft	35-36 ft	12.5-13.5 ft	12.5-13.5 ft	20-21 ft	32.5-33.5 ft	20-21 ft	20-21 ft	32.5-33.5 ft	0.5-1.5 ft	0.5-1.5 ft	0.5-1.5 ft
			Date Sampled:	07/11/13	07/11/13	07/11/13	07/10/13	07/10/13	07/10/13	07/10/13	07/11/13	07/11/13	07/11/13	07/10/13	07/10/13	07/10/13
Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units													
Methyl Iodide (Iodomethane)	NE	NE	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Methylene Chloride	480	480	mg/Kg	**0.0076**	**0.0096**	**0.032**	0.0054 U	0.0054 U	0.017 U	0.0050 U	**0.03**	**0.039**	**0.023**	–	–	–
n-Butylbenzene	4000	4000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0012**	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
n-Propylbenzene	8000	8000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.03**	**0.022**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
p-Isopropyltoluene	NE	NE	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0014**	**0.0006 J**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Sec-Butylbenzene	8000	8000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0012**	**0.0007 J**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Styrene	16000	16000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Tert-Butylbenzene	8000	8000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Tetrachloroethene	480	480	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Toluene	6400	6400	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0037**	**0.0044**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Trans-1,2-Dichloroethene	1600	1600	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Trichloroethene	12	12	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Trichlorofluoromethane (CFC-11)	24000	24000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Vinyl Chloride	0.67	0.67	mg/Kg	0.0014 U	0.0020 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Xylene, m-,p-	16000	16000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.021**	**0.032**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–
Xylene, o-	16000	16000	mg/Kg	0.0014 U	0.0020 U	0.0012 U	**0.0017**	**0.0041**	0.0014 U	0.0018 U	0.0013 U	0.0014 U	0.0011 U	–	–	–

Notes:

[1] Samples collected by Dames and Moore were analyzed by an out-of-date method that combined Total Petroleum Hydrocarbons (TPH). Review of chromatographs indicate product is predominantly heavy oil-range hydrocarbons. Therefore, the Screening Level for lube oil-range hydrocarbons is used to screen the data from this previous study.

J = estimated value
mg/kg = milligrams per kilogram
NE = A Screening Level was not established for this analyte (See Table 9)
T = summed result
U = not detected
TPH = total petroleum hydrocarbons
VOCs = volatile organic compounds
Bold = detected value
Orange Fill indicates detected result for saturated zone sample > the Screening Level for saturated soil
Yellow Fill indicates detected result for vadoze zone sample > the Screening Level for vadose zone soil
Blue Fill indicates not detected with reporting limit > the Screening Level

Table G-2

RI Soil Analytical Data - SVOC and PAH Results

7100 1st Avenue South Site

Seattle, Washington

Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units	Sample Description	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED
				Sampling Event:	HISTORICAL	HISTORICAL	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
				Location ID:	SB-4	SB-5	DMC*SB-08	DMC*SB-09	DMC*SB-10	DMC*SB-11	DMC*SB-12	DMC*SB-12	MW-2R	MW-2R	MW-2R	MW-2R	MW-2R	MW-13
				Sample ID:	SB-4-8	SB-5-13	MW-08-30	MW-09-15	MW-10-20	MW-11-15	MW-12-15	MW-12-25	MW-2R-10.0	MW-2R-20.0	MW-2R-20.0-DUP	MW-2R-32.5-DUP	MW-13-12.5	MW-13-25.0
				Sample Depth:	8-8.5 ft	13-13.5 ft	30-31.5 ft	15-16.5 ft	20-21.5 ft	15-16.5 ft	15-16.5 ft	25-26.5 ft	10-11 ft	20-21 ft	20-21 ft	32.5-33.5 ft	12.5-13.5 ft	25-26 ft
				Date Sampled:	12/06/90	12/06/90	06/18/08	06/18/08	06/18/08	06/19/08	06/19/08	06/19/08	07/11/13	07/11/13	07/11/13	07/11/13	07/12/13	07/12/13
Semivolatile Organic Compounds (SVOCs)																		
2,4,5-Trichlorophenol	8000	8000	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.098 U	0.098 U	0.097 U	0.098 U	0.092 U	0.29 U
2,4-Dichlorophenol	240	240	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.2 U	0.2 U	0.19 U	0.2 U	0.092 U	0.29 U
2,4-Dimethylphenol	1600	1600	mg/Kg	–	–	0.04 U	0.036 U	0.038 U	0.033 U	0.15 U	0.032 U	0.039 U	0.039 U	0.039 U	0.039 U	0.092 U	0.29 U
2-Chloronaphthalene	6400	6400	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
2-methylphenol (o-Cresol)	4000	4000	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
4-Chloro-3-Methylphenol	NE	NE	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.098 U	0.098 U	0.097 U	0.098 U	0.092 U	0.29 U
4-methylphenol (p-Cresol)	8000	8000	mg/Kg	–	–	0.0079 U	**0.0017 J**	**0.0051 J**	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	**0.023**	0.02 U	0.018 U	**0.029 J**
Aniline	180	180	mg/Kg	–	–	–	–	–	–	–	–	0.53 U	0.53 U	0.52 U	0.53 U	0.5 U	1.6 U
Benzoic Acid	320000	320000	mg/Kg	–	–	0.16 U	0.15 U	0.16 U	0.14 U	0.59 U	0.13 U	0.39 U	0.39 U	0.39 U	0.39 U	0.18 U	0.58 U
Benzyl Alcohol	8000	8000	mg/Kg	–	–	0.016 U	0.015 U	0.016 U	0.014 U	0.059 U	0.013 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
Bis(2-Ethylhexyl) Phthalate	25	1.3	mg/Kg	–	–	**0.019 J**	**0.029 J**	**0.038 J**	**0.014 J**	**0.16 J**	**0.1**	**0.018 J**	**0.041**	**0.038**	**0.044**	0.046 U	**0.35**
Butyl benzyl Phthalate	530	530	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
Carbazole	NE	NE	mg/Kg	–	–	–	–	–	–	–	–	0.02 UJ	**0.08 J**	**0.05 J**	**0.028 J**	0.018 UJ	0.058 UJ
Dibutyl Phthalate	8000	8000	mg/Kg	–	–	0.016 U	0.015 U	0.016 U	0.014 U	0.059 U	0.013 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
Diethyl Phthalate	64000	64000	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	**0.0017 J**	0.03 U	0.0063 U	0.049 U	0.049 U	0.048 U	**0.054**	0.018 U	0.058 U
Dimethyl Phthalate	NE	NE	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
Di-N-Octyl Phthalate	800	800	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
Isophorone	1000	1000	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
N-Nitrosodiphenylamine (as diphenylamine)	0.30	0.020	mg/Kg	–	–	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
Pentachlorophenol	2.5	2.5	mg/Kg	–	–	0.079 U	0.071 U	0.076 U	0.066 U	0.3 U	0.063 U	0.2 UJ	0.2 UJ	0.19 UJ	0.2 UJ	0.092 U	0.29 U
Phenol	24000	24000	mg/Kg	–	–	0.024 U	0.022 U	0.023 U	0.02 U	0.088 U	0.019 U	0.02 U	0.02 U	0.019 U	0.02 U	0.018 U	0.058 U
Pyridine	80	80	mg/Kg	–	–	–	–	–	–	–	–	0.15 U	0.15 U	0.14 U	0.15 U	0.14 U	0.44 U
Polycyclic Aromatic Hydrocarbons (PAHs)																		
1-Methylnaphthalene	34	34	mg/Kg	–	–	–	–	–	–	–	–	**0.0066**	**0.14 J**	**0.069 J**	**0.023**	**0.0056**	**0.036 J**
2-Methylnaphthalene	320	320	mg/Kg	0.04 U	0.05 U	**0.067**	**0.006 J**	**0.054**	**0.0038 J**	**2.2 J**	**0.025**	**0.0037 J**	**0.21 J**	**0.085 J**	**0.041**	**0.0051**	**0.05 J**
Acenaphthene	34	1.7	mg/Kg	0.04 U	0.05 U	**0.014**	**0.0025 J**	**0.056**	0.0066 U	**0.037 J**	**0.0028 J**	**0.0098**	**0.35 J**	**0.19 J**	**0.14**	0.0047 U	**0.04 J**
Acenaphthylene	NE	NE	mg/Kg	0.04 U	0.05 U	**0.0057 J**	**0.0013 J**	**0.0033 J**	0.0066 U	0.03 U	**0.0015 J**	0.0049 U	0.0048 U	0.0047 U	**0.0030 J**	0.0047 U	0.015 UJ
Anthracene	24000	24000	mg/Kg	0.04 U	0.05 U	**0.014**	**0.0046 J**	**0.018**	**0.0022 J**	**0.021 J**	**0.0065**	0.0049 U	**0.042**	**0.037**	**0.027**	0.0047 U	**0.052 J**
Benzo(g,h,i)perylene	NE	NE	mg/Kg	–	–	**0.013**	0.0071 U	**0.0046 J**	0.0066 U	0.03 U	**0.0049 J**	0.0049 U	**0.0088**	**0.013**	**0.0047 J**	**0.0042 J**	**0.029 J**
Dibenzofuran	80	80	mg/Kg	0.04 U	0.05 U	**0.0096**	**0.0042 J**	**0.023**	**0.0018 J**	**0.022 J**	**0.0024 J**	0.0049 U	**0.26 J**	**0.11 J**	**0.046**	0.0047 U	**0.036 J**
Fluoranthene	3200	3200	mg/Kg	0.04 U	**0.056**	**0.056**	**0.025**	**0.26**	**0.0091**	**0.045 J**	**0.033**	**0.0062**	**0.19**	**0.15**	**0.086**	**0.01**	**0.24 J**
Fluorene	18	0.88	mg/Kg	0.04 U	0.05 U	**0.019**	**0.004 J**	**0.035**	**0.002 J**	**0.051 J**	**0.004 J**	0.0049 U	**0.3 J**	**0.16 J**	**0.083**	0.0047 U	**0.062 J**
Naphthalene	0.39	0.019	mg/Kg	0.04 U	0.05 U	**0.0049 J**	**0.0028 J**	**0.0072 J**	**0.0068 J**	**1.5**	**0.0095 J**	**0.021**	**0.4 J**	**0.15 J**	**0.077**	**0.0038 J**	**0.045 J**
Phenanthrene	NE	NE	mg/Kg	0.04 U	**0.065**	**0.054**	**0.017**	**0.065**	**0.0076**	**0.1 J**	**0.018**	**0.0059**	**0.47**	**0.33**	**0.27**	**0.0082**	**0.17 J**
Pyrene	2400	2400	mg/Kg	0.04 U	**0.07**	**0.057**	**0.022**	**0.17**	**0.01**	**0.048 J**	**0.027**	**0.0055**	**0.13**	**0.11**	**0.048**	**0.0094**	**0.18 J**
Benzo(a)pyrene	2.2	0.11	mg/Kg	0.08 U	0.1 U	**0.019**	**0.006 J**	**0.0072 J**	**0.0025 J**	**0.015 J**	**0.0069**	0.0049 U	**0.019**	**0.028**	**0.0050**	**0.0028 J**	**0.035 J**
Benzo(a)anthracene	0.82	0.041	mg/Kg	0.04 U	0.05 U	**0.021**	**0.01**	**0.015**	**0.0036 J**	**0.017 J**	**0.0098**	0.0049 U	**0.036**	**0.042**	**0.01**	**0.0032 J**	**0.065 J**
Benzo(b)fluoranthene	2.8	0.14	mg/Kg	0.08 U	0.1 U	**0.025**	**0.0093**	**0.01**	**0.004 J**	**0.021 J**	**0.0083**	0.0049 U	**0.019**	**0.023**	**0.0054**	**0.0028 J**	**0.049 J**
Benzo(k)fluoranthene	2.8	0.14	mg/Kg	0.08 U	0.1 U	**0.0083**	**0.0032 J**	**0.0034 J**	0.0066 U	0.03 U	**0.0029 J**	0.0049 U	**0.0099**	**0.011**	**0.0029 J**	0.0047 U	**0.022 J**
Benzofluoranthenes (Total)	5.6	0.28	mg/Kg	–	–	–	–	–	–	–	–	0.0049 U	**0.037**	**0.045**	**0.011**	**0.0045 J**	**0.094 J**
Chrysene	1.4	0.073	mg/Kg	0.04 U	0.05 U	**0.031**	**0.014**	**0.016**	**0.0035 J**	**0.018 J**	**0.013**	**0.0027 J**	**0.046**	**0.051**	**0.012**	**0.0048**	**0.092 J**
Dibenzo(a,h)anthracene	NE	NE	mg/Kg	0.08 U	0.1 U	0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.0049 U	**0.0034 J**	**0.0050**	0.0049 U	0.0047 U	0.015 UJ
Indeno(1,2,3-c,d)pyrene	7.9	0.40	mg/Kg	0.08 U	0.1 U	**0.014**	**0.0043 J**	**0.0056 J**	0.0066 U	0.03 U	**0.0052 J**	0.0049 U	**0.0068**	**0.0093**	**0.0037 J**	0.0047 U	**0.021 J**
Total cPAH TEQ (ND=0.5RL)	0.14	0.11	mg/Kg	0.0582 U	0.07275 U	**0.026535**	**0.009175**	**0.01114**	**0.004285**	**0.02348**	**0.009965**	**0.003457**	**0.02778**	**0.03864 T**	**0.007835 T**	**0.004088**	**0.05467**

Table G-2

RI Soil Analytical Data - SVOC and PAH Results

7100 1st Avenue South Site

Seattle, Washington

			Sample Description:	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	MW-13	MW-14	MW-14	MW-14	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17
			Sample ID:	MW-13-32.5	MW-14-7.5	MW-14-17.5	MW-14-30.0	MW-15-12.5	MW-15-22.5	MW-15-35.0	MW-16-12.5	MW-16-25.0	MW-16-30.0	MW-17-12.5	MW-17-27.5	MW-17-30.0	MW-17-30.0-DUP
			Sample Depth:	32.5-33.5 ft	7.5-8.5 ft	17.5-18.5 ft	30-31 ft	12.5-13.5 ft	22.5-23.5 ft	35-36 ft	12.5-13.5 ft	25-26 ft	30-31 ft	12.5-13.5 ft	27.5-28.5 ft	30-31 ft	30-31 ft
			Date Sampled:	07/12/13	07/09/13	07/09/13	07/09/13	07/09/13	07/09/13	07/09/13	07/10/13	07/10/13	07/10/13	07/12/13	07/12/13	07/12/13	07/12/13
Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units														
Semivolatile Organic Compounds (SVOCs)																	
2,4,5-Trichlorophenol	8000	8000	mg/Kg	0.3 U	0.096 U	0.094 U	0.096 U	0.093 U	0.096 U	0.096 U	0.094 U	0.27 U	0.094 U	0.096 U	0.49 U	0.3 U	0.29 U
2,4-Dichlorophenol	240	240	mg/Kg	0.3 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.54 U	0.19 U	0.096 U	0.49 U	0.3 U	0.29 U
2,4-Dimethylphenol	1600	1600	mg/Kg	0.3 U	0.038 U	0.037 U	0.038 U	0.037 U	0.038 U	0.038 U	0.038 U	0.11 U	0.038 U	0.096 U	0.49 U	0.3 U	0.29 U
2-Chloronaphthalene	6400	6400	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.054 U	0.019 U	0.019 U	0.097 U	0.059 U	0.058 U
2-methylphenol (o-Cresol)	4000	4000	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.054 U	0.019 U	0.019 U	0.097 U	0.059 U	0.058 U
4-Chloro-3-Methylphenol	NE	NE	mg/Kg	0.3 U	0.096 U	0.094 U	0.096 U	0.093 U	0.096 U	0.096 U	0.094 U	0.27 U	0.094 U	0.096 U	0.49 U	0.3 U	0.29 U
4-methylphenol (p-Cresol)	8000	8000	mg/Kg	0.059 U	0.019 U	**0.024**	**0.036**	**0.01 J**	**0.033**	**0.06**	0.019 U	0.054 U	0.019 U	0.019 U	0.097 U	0.059 U	0.058 U
Aniline	180	180	mg/Kg	1.6 U	0.52 U	0.5 U	0.52 U	0.5 UJ	0.52 U	0.52 U	0.51 U	1.4 U	0.51 UJ	0.52 U	2.6 U	1.6 U	1.6 U
Benzoic Acid	320000	320000	mg/Kg	0.59 U	0.38 U	**0.27 J**	**0.39**	**0.11 J**	**0.24 J**	**0.42**	0.38 U	1.1 U	0.38 U	0.19 U	0.97 U	0.59 U	0.59 U
Benzyl Alcohol	8000	8000	mg/Kg	0.059 U	0.019 U	**0.14**	**0.14**	**0.067**	**0.073**	**0.24**	**0.024**	0.054 U	0.019 U	0.019 U	0.097 U	**0.048 J**	0.058 U
Bis(2-Ethylhexyl) Phthalate	25	1.3	mg/Kg	0.15 U	0.024 U	**0.18**	**0.052**	**0.06**	**0.17**	**0.015 J**	**0.018 J**	**0.93**	0.024 U	0.048 U	**2.5**	0.15 U	0.15 U
Butyl benzyl Phthalate	530	530	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	**0.035**	0.054 U	0.019 U	0.019 U	**0.42**	0.059 U	0.058 U
Carbazole	NE	NE	mg/Kg	0.059 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.019 U	0.054 U	0.019 U	0.019 UJ	0.097 UJ	0.059 UJ	0.058 UJ
Dibutyl Phthalate	8000	8000	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.054 U	0.019 U	0.019 U	**0.22**	0.059 U	0.058 U
Diethyl Phthalate	64000	64000	mg/Kg	0.059 U	0.048 U	0.047 U	0.048 U	0.046 U	0.048 U	0.048 U	0.047 U	0.13 U	0.047 U	0.019 U	0.097 U	0.059 U	0.059 U
Dimethyl Phthalate	NE	NE	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	**0.02**	0.019 U	0.054 U	0.019 U	0.019 U	0.097 U	0.059 U	0.058 U
Di-N-Octyl Phthalate	800	800	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	**0.2**	0.019 U	0.019 U	0.097 U	0.059 U	0.058 U
Isophorone	1000	1000	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.054 U	0.019 U	0.019 U	0.097 U	0.059 U	0.058 U
N-Nitrosodiphenylamine (as diphenylamine)	0.30	0.020	mg/Kg	0.059 U	0.019 U	0.019 U	0.019 U	0.019 U	**0.031**	0.019 U	0.019 U	0.054 U	0.019 U	0.019 U	**0.33**	0.059 U	0.058 U
Pentachlorophenol	2.5	2.5	mg/Kg	0.3 U	0.19 U	0.19 U	0.19 U	0.19 U	**0.051 J**	0.19 U	0.19 U	0.54 U	0.19 U	0.096 U	0.49 U	0.3 U	0.29 U
Phenol	24000	24000	mg/Kg	0.059 U	0.019 U	**0.041**	**0.08**	**0.024**	**0.038**	**0.068**	0.019 U	0.054 U	0.019 U	0.019 U	**0.088 J**	**0.095**	0.058 U
Pyridine	80	80	mg/Kg	0.44 U	0.14 U	0.14 U	**0.046 J**	0.14 U	**0.054 J**	**0.073 J**	0.14 U	0.4 U	0.14 U	0.14 U	0.73 U	0.44 U	0.44 U
Polycyclic Aromatic Hydrocarbons (PAHs)																	
1-Methylnaphthalene	34	34	mg/Kg	**0.017**	**0.0058**	**0.018**	**0.034**	**0.016**	**0.014 J**	**0.019**	**0.011**	**0.38**	**0.01**	**0.0084**	**0.38**	**0.063 J**	**0.045 J**
2-Methylnaphthalene	320	320	mg/Kg	**0.019**	**0.0057**	**0.02**	**0.041**	**0.018**	**0.017**	**0.022 J**	**0.011**	**0.2**	**0.0097**	**0.0095**	**0.54**	**0.08 J**	**0.06 J**
Acenaphthene	34	1.7	mg/Kg	**0.022**	0.0049 U	**0.0071**	0.016 U	**0.0054**	**0.018**	**0.021 J**	**0.01**	0.038 U	**0.037**	**0.0097**	**0.15**	**0.038 J**	**0.04 J**
Acenaphthylene	NE	NE	mg/Kg	**0.011**	0.0049 U	**0.0037 J**	**0.012 J**	**0.0036 J**	**0.0097 J**	**0.0079**	0.0046 U	0.038 U	**0.0042 J**	**0.0035 J**	**0.032 J**	**0.036 J**	0.016 UJ
Anthracene	24000	24000	mg/Kg	**0.028**	**0.0031 J**	**0.01**	**0.037**	**0.01**	**0.044**	**0.039 J**	**0.0076**	**0.87**	**0.012**	**0.0059**	**0.072**	**0.066 J**	**0.045 J**
Benzo(g,h,i)perylene	NE	NE	mg/Kg	**0.022**	**0.0053**	**0.0083**	**0.02**	**0.01**	**0.048**	**0.031 J**	**0.0076**	**0.21**	**0.01**	**0.0075**	0.033 U	**0.056 J**	**0.037 J**
Dibenzofuran	80	80	mg/Kg	**0.025**	**0.0042 J**	**0.012**	**0.018**	**0.0073**	**0.02**	**0.029 J**	**0.0079**	**0.21**	**0.01**	**0.0072**	**0.072**	**0.04 J**	**0.043 J**
Fluoranthene	3200	3200	mg/Kg	**0.087**	**0.014**	**0.041**	**0.13**	**0.031**	**0.26**	**0.13 J**	**0.077**	**1.4**	**0.057**	**0.027**	**0.29**	**0.21 J**	**0.18 J**
Fluorene	18	0.88	mg/Kg	**0.028**	**0.0033 J**	**0.011**	**0.023**	**0.0074**	**0.033**	**0.032 J**	**0.0073**	**0.4**	**0.015**	**0.0076**	**0.2**	**0.054 J**	**0.051 J**
Naphthalene	0.39	0.019	mg/Kg	**0.037**	**0.0042 J**	**0.019**	**0.036**	**0.013**	**0.019**	**0.023 J**	**0.012**	**0.21**	**0.017**	**0.012**	**0.11**	**0.1 J**	**0.077 J**
Phenanthrene	NE	NE	mg/Kg	**0.075**	**0.014**	**0.032**	**0.069**	**0.032**	**0.082**	**0.069 J**	**0.03**	**1.2**	**0.045**	**0.03**	**0.52**	**0.17 J**	**0.13 J**
Pyrene	2400	2400	mg/Kg	**0.19**	**0.032**	**0.12**	**0.33**	**0.044**	**0.27**	**0.15**	**0.064**	**1.6**	**0.043**	**0.066**	**0.35**	**0.29 J**	**0.16 J**
Benzo(a)pyrene	2.2	0.11	mg/Kg	**0.016**	**0.0046 J**	**0.011**	**0.065**	**0.013**	**0.14**	**0.039**	**0.01**	**0.31**	**0.012**	**0.0082**	**0.062**	**0.065 J**	**0.039 J**
Benzo(a)anthracene	0.82	0.041	mg/Kg	**0.021**	**0.0056**	**0.016**	**0.069**	**0.012**	**0.14**	**0.049 J**	**0.017**	**0.45**	**0.015**	**0.0085**	**0.077**	**0.094 J**	**0.058 J**
Benzo(b)fluoranthene	2.8	0.14	mg/Kg	**0.018**	**0.0069**	**0.013**	**0.099**	**0.014**	**0.24**	**0.044**	**0.011**	**0.29**	**0.011**	**0.0086**	**0.076**	**0.067 J**	**0.042 J**
Benzo(k)fluoranthene	2.8	0.14	mg/Kg	**0.013**	**0.0027 J**	**0.0069**	**0.055**	**0.0068**	**0.11**	**0.022**	**0.0048**	**0.16**	**0.0054**	**0.0035 J**	**0.059**	**0.036 J**	**0.019 J**
Benzofluoranthenes (Total)	5.6	0.28	mg/Kg	**0.041**	**0.012**	**0.025**	**0.2**	**0.026**	**0.44**	**0.083**	**0.02**	**0.58**	**0.021**	**0.016**	**0.17**	**0.13 J**	**0.079 J**
Chrysene	1.4	0.073	mg/Kg	**0.031**	**0.0094**	**0.019**	**0.12**	**0.022**	**0.17**	**0.065 J**	**0.018**	**0.73**	**0.015**	**0.015**	**0.14**	**0.094 J**	**0.058 J**
Dibenzo(a,h)anthracene	NE	NE	mg/Kg	0.0050 U	0.0049 U	0.0048 U	0.016 U	0.0047 U	**0.012 J**	**0.0046 J**	0.0046 U	**0.063**	0.0047 U	0.0050 U	0.033 U	0.016 UJ	0.016 UJ
Indeno(1,2,3-c,d)pyrene	7.9	0.40	mg/Kg	**0.0079**	0.0049 U	**0.0044 J**	**0.016**	**0.0049**	**0.049**	**0.016 J**	**0.0050**	**0.13**	**0.0070**	**0.0037 J**	0.033 U	**0.035 J**	**0.025 J**
Total cPAH TEQ (ND=0.5RL)	0.14	0.11	mg/Kg	**0.02355**	**0.006944**	**0.01597**	**0.0955**	**0.01775**	**0.2058**	**0.05491**	**0.01461**	**0.4396**	**0.01669**	**0.01142**	**0.0914**	**0.09264**	**0.05658 T**

Table G-2

RI Soil Analytical Data - SVOC and PAH Results

7100 1st Avenue South Site

Seattle, Washington

			Sample Description	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	VADOSE	VADOSE
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	MW-18	MW-18	MW-18	MW-19	MW-19	MW-19	MW-19	HA-1	HA-2	HA-3
			Sample ID:	MW-18-12.5	MW-18-27.5	MW-18-35.0	MW-19-12.5	MW-19-12.5-DUP	MW-19-20.0	MW-19-32.5	HA-1-0.5	HA-2-0.5	HA-3-0.5
			Sample Depth:	12.5-13.5 ft	27.5-28.5 ft	35-36 ft	12.5-13.5 ft	12.5-13.5 ft	20-21 ft	32.5-33.5 ft	0.5-1.5 ft	0.5-1.5 ft	0.5-1.5 ft
			Date Sampled:	07/11/13	07/11/13	07/11/13	07/10/13	07/10/13	07/10/13	07/10/13	07/10/13	07/10/13	07/10/13
Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units										
Semivolatile Organic Compounds (SVOCs)													
2,4,5-Trichlorophenol	8000	8000	mg/Kg	0.097 U	0.11 U	0.094 U	0.096 U	0.097 U	0.098 U	0.099 U	0.094 U	0.094 U	0.094 U
2,4-Dichlorophenol	240	240	mg/Kg	0.2 U	0.22 U	0.19 U	0.19 U	0.19 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U
2,4-Dimethylphenol	1600	1600	mg/Kg	0.039 U	0.043 U	0.038 U	0.038 U	**0.012 J**	0.039 U	0.04 U	0.038 U	0.037 U	0.038 U
2-Chloronaphthalene	6400	6400	mg/Kg	0.02 U	0.022 U	0.019 U	0.019 U	0.019 U	0.02 U	0.02 U	0.019 U	0.019 U	0.019 U
2-methylphenol (o-Cresol)	4000	4000	mg/Kg	0.02 U	0.022 U	0.019 U	0.019 U	0.019 U	0.02 U	0.02 U	0.019 U	0.019 U	0.019 U
4-Chloro-3-Methylphenol	NE	NE	mg/Kg	0.097 U	0.11 U	0.094 U	0.096 U	0.097 U	0.098 U	0.099 U	0.094 U	0.094 U	0.094 U
4-methylphenol (p-Cresol)	8000	8000	mg/Kg	0.02 U	**0.046**	0.019 U	0.019 U	**0.018 J**	**0.045**	**0.064**	0.019 U	0.019 U	0.019 U
Aniline	180	180	mg/Kg	0.53 U	0.58 U	0.51 U	0.52 U	0.52 U	0.53 U	0.53 U	0.51 U	0.5 U	0.51 U
Benzoic Acid	320000	320000	mg/Kg	0.39 U	**0.38 J**	0.38 U	0.38 U	0.39 U	**0.12 J**	**0.46**	0.38 U	0.37 U	0.38 U
Benzyl Alcohol	8000	8000	mg/Kg	0.02 U	**0.19**	0.019 U	0.019 U	0.019 U	**0.073**	**0.24**	0.019 U	0.019 U	**0.045**
Bis(2-Ethylhexyl) Phthalate	25	1.3	mg/Kg	**0.066**	**0.26**	**0.033**	**0.038**	**0.039**	**0.032**	0.025 U	**0.24**	**0.12**	**0.17**
Butyl benzyl Phthalate	530	530	mg/Kg	0.02 U	0.022 U	0.019 U	0.019 U	0.019 U	0.02 U	0.02 U	**0.018 J**	0.019 U	0.019 U
Carbazole	NE	NE	mg/Kg	0.02 U	0.022 U	**0.01 J**	**0.26 J**	**0.56 J**	**0.013 J**	0.02 U	**0.02**	0.019 U	**0.02**
Dibutyl Phthalate	8000	8000	mg/Kg	0.02 U	0.022 U	0.019 U	**0.13 J**	0.019 UJ	0.02 U	0.02 U	**0.0094 J**	0.019 U	0.019 U
Diethyl Phthalate	64000	64000	mg/Kg	0.049 U	0.054 U	**0.045 J**	**0.072**	**0.043 J**	0.049 U	0.049 U	0.047 U	0.047 U	**0.055**
Dimethyl Phthalate	NE	NE	mg/Kg	0.02 U	0.022 U	0.019 U	0.019 U	0.019 U	0.02 U	0.02 U	0.019 U	0.019 U	0.019 U
Di-N-Octyl Phthalate	800	800	mg/Kg	0.02 U	**0.069 NJ**	0.019 U	0.019 U	0.019 U	0.02 U	0.02 U	**0.017 J**	**0.015 J**	**0.014 J**
Isophorone	1000	1000	mg/Kg	0.02 U	0.022 U	0.019 U	0.019 U	0.019 U	0.02 U	0.02 U	0.019 U	0.019 U	0.019 U
N-Nitrosodiphenylamine (as diphenylamine)	0.30	0.020	mg/Kg	0.02 U	0.022 U	0.019 U	0.019 U	0.019 U	0.02 U	0.02 U	0.019 U	0.019 U	0.019 U
Pentachlorophenol	2.5	2.5	mg/Kg	0.2 U	0.22 U	0.19 UJ	0.19 U	0.19 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U
Phenol	24000	24000	mg/Kg	0.02 U	**0.092**	0.019 U	0.019 U	**0.02**	**0.021**	**0.089**	**0.021**	**0.011 J**	**0.02**
Pyridine	80	80	mg/Kg	0.15 U	**0.11 J**	0.14 U	0.14 U	0.14 U	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U
Polycyclic Aromatic Hydrocarbons (PAHs)													
1-Methylnaphthalene	34	34	mg/Kg	**0.013**	**0.2**	**0.012**	**0.44 J**	**0.99 J**	**0.048**	**0.024**	**0.012**	**0.0078 J**	**0.0076 J**
2-Methylnaphthalene	320	320	mg/Kg	**0.013**	**0.19**	**0.0080**	**0.35 J**	**1.3 J**	**0.048**	**0.039**	**0.01**	**0.011**	**0.01 J**
Acenaphthene	34	1.7	mg/Kg	**0.014**	**0.25**	**0.21**	**0.82 J**	**1.8 J**	**0.052**	**0.047**	**0.011**	**0.0082 J**	**0.011**
Acenaphthylene	NE	NE	mg/Kg	0.0048 U	0.02 U	0.0046 U	0.0048 UJ	0.012 UJ	0.0048 U	0.0049 U	0.01 U	0.011 U	**0.018**
Anthracene	24000	24000	mg/Kg	**0.0096**	**0.37**	**0.013**	**0.047**	**0.044**	**0.029**	**0.082**	**0.019**	**0.015**	**0.032**
Benzo(g,h,i)perylene	NE	NE	mg/Kg	**0.0066**	**0.14**	**0.0065**	**0.02**	**0.024**	**0.018**	**0.032**	**0.052**	**0.052**	**0.1**
Dibenzofuran	80	80	mg/Kg	**0.015**	**0.12**	**0.0065**	**0.41**	**0.38**	**0.036**	**0.068**	**0.0072 J**	**0.0056 J**	**0.0059 J**
Fluoranthene	3200	3200	mg/Kg	**0.038**	**0.93**	**0.043**	**0.11**	**0.097**	**0.099**	**0.37**	**0.15**	**0.086**	**0.14**
Fluorene	18	0.88	mg/Kg	**0.016**	**0.22**	**0.058**	**0.41**	**0.52**	**0.03**	**0.064**	**0.0070 J**	**0.0059 J**	**0.0076 J**
Naphthalene	0.39	0.019	mg/Kg	**0.014**	**0.2**	**0.014**	**0.51 J**	**1.4 J**	**0.068**	**0.066**	0.0092 U	**0.012**	**0.014**
Phenanthrene	NE	NE	mg/Kg	**0.042**	**0.55**	**0.082**	**0.36**	**0.24**	**0.11**	**0.12**	**0.055**	**0.031**	**0.039**
Pyrene	2400	2400	mg/Kg	**0.034**	**0.92**	**0.039**	**0.089**	**0.084**	**0.087**	**0.26**	**0.17**	**0.074**	**0.19**
Benzo(a)pyrene	2.2	0.11	mg/Kg	**0.0076**	**0.24**	**0.0084**	**0.024**	**0.023**	**0.028**	**0.042**	**0.053**	**0.051**	**0.18**
Benzo(a)anthracene	0.82	0.041	mg/Kg	**0.012**	**0.46**	**0.014**	**0.034**	**0.032**	**0.04**	**0.073**	**0.066**	**0.038**	**0.11**
Benzo(b)fluoranthene	2.8	0.14	mg/Kg	**0.0089**	**0.22**	**0.0097**	**0.026**	**0.024**	**0.023**	**0.041**	**0.069**	**0.063**	**0.23**
Benzo(k)fluoranthene	2.8	0.14	mg/Kg	**0.0037 J**	**0.13**	**0.0049**	**0.012**	0.011 U	**0.011**	**0.022**	**0.038**	**0.035**	**0.13**
Benzofluoranthenes (Total)	5.6	0.28	mg/Kg	**0.017**	**0.46**	**0.019**	**0.05**	**0.045**	**0.045**	**0.083**	**0.14**	**0.12**	**0.45**
Chrysene	1.4	0.073	mg/Kg	**0.015**	**1**	**0.02**	**0.063**	**0.061**	**0.049**	**0.074**	**0.11**	**0.063**	**0.28**
Dibenzo(a,h)anthracene	NE	NE	mg/Kg	0.0048 U	**0.035**	0.0046 U	**0.0073**	0.0085 U	**0.0058**	**0.0084**	**0.013**	**0.015**	**0.027**
Indeno(1,2,3-c,d)pyrene	7.9	0.40	mg/Kg	**0.0040 J**	**0.11**	**0.0043 J**	**0.014**	**0.013**	**0.013**	**0.023**	**0.036**	**0.037**	**0.093**
Total cPAH TEQ (ND=0.5RL)	0.14	0.11	mg/Kg	**0.01129**	**0.3565**	**0.01256**	**0.03516**	**0.03346 T**	**0.03887**	**0.06148**	**0.0796**	**0.07263**	**0.2508**

Notes:

cPAH = carcinogenic PAH; PAH = polycyclic aromatic hydrocarbons

U = not detected; J = estimated value; SVOC = semivolatile organic compounds

mg/kg = milligrams per kilogram; T = summed result

Bold = detected value; TEQ = toxicity equivalent

NE = a Screening Level was not established for this analyte (see Table 9)

Orange Fill indicates detected result for saturated zone sample > the Screening Level for saturated soil

Yellow Fill indicates detected result for vadose zone sample > the Screening Level for vadose zone soil

Blue Fill indicates not detected with reporting limit > the Screening Level

Table G-3

RI Soil Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units	Sample Description	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	VADOSE	SATURATED
				Sampling Event:	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
				Location ID:	DMC*SB-08	DMC*SB-09	DMC*SB-10	DMC*SB-11	DMC*SB-12	DMC*SB-12	MW-2R	MW-2R	MW-2R	MW-2R	MW-13	MW-13	MW-13	MW-14	MW-14
				Sample ID:	MW-08-30	MW-09-15	MW-10-20	MW-11-15	MW-12-15	MW-12-25	MW-2R-10.0	MW-2R-20.0	MW-2R-20.0-DUP	MW-2R-32.5-DUP	MW-13-12.5	MW-13-25.0	MW-13-32.5	MW-14-7.5	MW-14-17.5
				Sample Depth:	30-31.5 ft	15-16.5 ft	20-21.5 ft	15-16.5 ft	15-16.5 ft	25-26.5 ft	10-11 ft	20-21 ft	20-21 ft	32.5-33.5 ft	12.5-13.5 ft	25-26 ft	32.5-33.5 ft	7.5-8.5 ft	17.5-18.5 ft
				Date Sampled:	06/18/08	06/18/08	06/18/08	06/19/08	06/19/08	06/19/08	07/11/13	07/11/13	07/11/13	07/11/13	07/12/13	07/12/13	07/12/13	07/09/13	07/09/13
Polychlorinated Biphenyls (PCBs)																			
PCB-Aroclor 1242	NE	NE	mg/Kg		0.0078 U	0.0071 U	0.76 U	0.0067 U	0.0059 U	0.063 U	0.0040 U	0.0038 U	0.0040 U	0.0038 U	0.0038 U	0.19 U	0.0040 U	0.0038 U	0.019 U
PCB-Aroclor 1248	NE	NE	mg/Kg		0.0078 U	0.081 U	**15 J**	0.0067 U	0.0059 U	**0.8 J**	0.0059 U	**0.1**	**0.077**	0.0038 U	0.0095 U	**2.2**	0.0060 U	**0.036**	**0.15**
PCB-Aroclor 1254	0.50	0.049	mg/Kg		**0.08**	**0.17**	**12 J**	**0.059**	**0.24**	**0.53 J**	0.03 U	**0.13**	**0.12**	**0.0034 J**	**0.043**	**2.6**	**0.0066**	**0.095**	**0.47**
PCB-Aroclor 1260	0.50	0.50	mg/Kg		**0.1**	**0.12**	0.76 U	0.0067 U	0.0059 U	**0.4 J**	**0.15**	**0.074**	**0.08**	**0.0021 J**	**0.017**	**1.1**	**0.0030 J**	**0.032**	**0.14**
Total PCBs	0.50	0.035	mg/Kg		**0.18**	**0.29**	**27**	**0.059**	**0.24**	**1.73**	**0.15**	**0.304**	**0.277 T**	**0.0055 T**	**0.06**	**5.9**	**0.0096**	**0.163**	**0.76**
Pesticides																			
2,4'-DDD	0.0052	0.00026	mg/Kg		**0.0068 J**	0.0037 U	**1.3 J**	0.0014 U	0.0025 U	0.0085 U	0.0000993 U	**0.000578**	**0.000463**	0.0000973 U	**0.000244**	**0.00328**	0.000129 U	**0.00160 J**	**0.000550**
2,4'-DDE	0.0098	0.00049	mg/Kg		**0.001 J**	0.0026 U	0.064 U	0.00067 U	0.00059 U	0.00063 U	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	**0.000629**	0.000129 U	**0.000136**	0.000108 U
2,4'-DDT	0.077	0.0039	mg/Kg		**0.0061**	**0.0094**	**0.48 J**	**0.0034**	**0.013 J**	**0.022**	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	**0.000121**	0.000108 U
4,4'-DDD	0.0052	0.00026	mg/Kg		**0.0027**	**0.0048**	**0.16 J**	**0.0013**	**0.0016**	**0.014**	**0.000455 J**	**0.00216**	**0.00174**	**0.000150**	**0.00128**	**0.0129**	**0.000152**	**0.00525 J**	**0.00362**
4,4'-DDE	0.0098	0.00049	mg/Kg		**0.0015 J**	0.0044 U	**0.16 J**	0.00067 U	0.00069 U	**0.013 J**	**0.0000922 J**	**0.000633**	**0.000708**	**0.0000703 J**	**0.000239**	**0.00737**	0.000129 U	**0.00217 J**	**0.000876**
4,4'-DDT	0.077	0.0039	mg/Kg		0.0027 U	**0.019**	**0.093 J**	**0.0035**	**0.0096**	**0.021**	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	**0.0000653 J**	**0.000288**	0.000129 U	**0.000474**	0.000108 U
Aldrin	0.059	0.059	mg/Kg		0.00078 U	0.00071 U	0.0076 U	0.00067 U	0.00059 U	0.00063 U	0.000156 U	0.000158 U	0.000158 U	0.000159 U	0.000160 U	0.000157 U	0.000160 U	0.000159 U	0.000155 U
Alpha-BHC	0.00041	0.00010	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Beta-BHC	0.56	0.56	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Chlorpyrifos	0.0093	0.00047	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
cis-Nonachlor	NE	NE	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	**0.000148**	0.000129 U	**0.000124**	0.000108 U
Delta-BHC	NE	NE	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Dieldrin	0.029	0.0015	mg/Kg		0.00078 U	0.0023 U	0.0076 U	0.00067 U	0.001 U	0.0037 U	0.000200 U	0.000260 U	0.000217 U	0.000200 U	**0.000271**	0.000243 U	0.000258 U	0.000240 U	0.000216 U
Endosulfan II	480	480	mg/Kg		–	–	–	–	–	–	0.000200 UJ	0.000260 U	0.000217 U	0.000200 U	0.000209 U	**0.00232 NJ**	0.000258 U	0.00955 UJ	0.000216 U
Endosulfan Sulfate	480	480	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Endrin	24	24	mg/Kg		–	–	–	–	–	–	0.000200 U	0.000260 U	0.000217 U	0.000200 U	0.000209 U	0.000243 U	0.000258 U	0.000240 U	0.000216 U
Endrin Ketone	24	24	mg/Kg		–	–	–	–	–	–	0.000200 U	0.000260 U	0.000217 U	0.000200 U	0.000209 U	0.000243 U	0.000258 U	0.000240 U	0.000216 U
Heptachlor	0.0022	0.00011	mg/Kg		0.00078 U	0.00071 U	0.0076 U	0.00067 U	0.00059 U	0.00063 U	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Heptachlor Epoxide	0.019	0.00095	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Hexachlorobenzene	0.018	0.00091	mg/Kg		0.0079 U	0.0071 U	0.0076 U	0.0066 U	0.03 U	0.0063 U	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Isodrin	NE	NE	mg/Kg		–	–	–	–	–	–	0.000199 U	0.000260 U	0.000217 U	0.000195 U	0.000209 U	0.000243 U	0.000258 U	0.000240 U	0.000216 U
Lindane (Gamma-BHC)	0.91	0.91	mg/Kg		0.00078 U	0.00071 U	0.0076 U	0.00067 U	0.00059 U	0.00063 U	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Methoxychlor	400	400	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Mirex	0.056	0.056	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
Octachlorostyrene	NE	NE	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	0.000122 U	0.000129 U	0.000120 U	0.000108 U
trans-Nonachlor	NE	NE	mg/Kg		–	–	–	–	–	–	0.0000993 U	0.000130 U	0.000109 U	0.0000973 U	0.000105 U	**0.000144**	0.000129 U	**0.0000998 J**	0.000108 U
alpha-Chlordane (cis)	0.0058	0.00029	mg/Kg		–	–	–	–	–	–	0.0000993 U	**0.000238**	**0.0000857 J**	0.0000973 U	**0.0000759 J**	**0.000447**	0.000129 U	**0.000403**	0.000108 U
gamma-Chlordane	0.0058	0.00029	mg/Kg		–	–	–	–	–	–	0.0000993 U	**0.000346 J**	**0.000102 J**	0.0000973 U	**0.000103 J**	**0.000766**	0.000129 U	**0.000523**	**0.000135**
Chlordane (Total)	NE	NE	mg/Kg		0.0081 U	0.027 U	0.61 U	0.0081 U	0.021 U	0.019 U	–	–	–	–	–	–	–	–	–
Metals																			
Arsenic	20	20	mg/Kg		**19.7**	**7.28**	**10.5**	**3.72**	**4**	**4.66**	**4.0**	**4.5**	**5.2**	**3.4**	**3.1**	**7.5**	**9.0**	**4.8**	**11.8**
Cadmium	80	80	mg/Kg		**1.66 J**	**0.348 J**	**0.16 J**	**0.146**	**0.43**	**0.181**	**0.1**	**0.3**	**0.3**	**0.1**	**0.1**	**0.6**	**0.2**	**0.3 J**	**0.6 J**
Chromium	120000	120000	mg/Kg		**69.5**	**20.6**	**22.7**	**13.3**	**16.7**	**12.1**	**12.9**	**16.1**	**16.6**	**11.9**	**12.7**	**25.7**	**22.5**	**16.4**	**24.6**
Copper	36	36	mg/Kg		**42.9**	**28.7**	**37.6**	**17.3**	**23.3**	**18.2**	**12.8**	**19.6**	**20.7**	**14.6**	**16.9**	**39.3**	**41.3**	**22.9**	**44.0**
Lead	250	81	mg/Kg		**562 J**	**11.6 J**	**10.9 J**	**5.81**	**22.5**	**15**	**4.1**	**9.7**	**8.4**	**3.3**	**5.6**	**49.3**	**12.9**	**9.5 J**	**18.9 J**
Mercury	0.070	0.070	mg/Kg		**0.165**	**0.129**	**0.635**	**0.068**	**0.098**	**0.135**	**0.03**	**0.06**	**0.06**	**0.03**	**0.07 J**	**0.11 J**	**0.16 J**	**0.08**	**0.22**
Nickel	48	48	mg/Kg		–	–	–	–	–	–	**10.9**	**13.1**	**14.7**	**12.6**	**13.0**	**17.9**	**21.0**	**15.9**	**21.5**
Silver	400	400	mg/Kg		**0.303**	**0.231**	**0.112**	**0.087**	**0.065**	**0.056**	0.2 U	0.3 U	0.3 U	0.2 U	0.2 U	**0.5**	0.3 U	0.3 U	**0.4**
Zinc	110	85	mg/Kg		**835**	**64.7**	**48.4**	**41.5**	**119**	**40.4**	**35**	**52**	**52**	**33**	**160**	**90**	**64**	**56**	**91**

Table G-3

RI Soil Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

Parameter	Vadose Zone Screening Level	Saturated Zone Screening Level	Units	Sample Description	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED	SATURATED
				Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
				Location ID:	MW-14	MW-15	MW-15	MW-15	MW-16	MW-16	MW-16	MW-17	MW-17	MW-17	MW-17	MW-18	MW-18	MW-18	MW-19
				Sample ID:	MW-14-30.0	MW-15-12.5	MW-15-22.5	MW-15-35.0	MW-16-12.5	MW-16-25.0	MW-16-30.0	MW-17-12.5	MW-17-27.5	MW-17-30.0	MW-17-30.0-DUP	MW-18-12.5	MW-18-27.5	MW-18-35.0	MW-19-12.5
				Sample Depth:	30-31 ft	12.5-13.5 ft	22.5-23.5 ft	35-36 ft	12.5-13.5 ft	25-26 ft	30-31 ft	12.5-13.5 ft	27.5-28.5 ft	30-31 ft	30-31 ft	12.5-13.5 ft	27.5-28.5 ft	35-36 ft	12.5-13.5 ft
				Date Sampled:	07/09/13	07/09/13	07/09/13	07/09/13	07/10/13	07/10/13	07/10/13	07/12/13	07/12/13	07/12/13	07/12/13	07/11/13	07/11/13	07/11/13	07/10/13
Polychlorinated Biphenyls (PCBs)																			
PCB-Aroclor 1242	NE	NE	mg/Kg		0.019 U	0.019 U	0.038 U	0.0038 U	0.0039 U	0.032 U	0.0039 U	0.0037 U	1.3 U	0.0039 U	0.0039 U	0.0038 U	0.039 U	0.0038 U	0.0039 U
PCB-Aroclor 1248	NE	NE	mg/Kg		0.048 U	**0.11**	**0.6**	0.0038 U	**0.062**	0.081 U	0.0039 U	0.037 U	**21**	**0.16**	**0.14**	**0.034**	0.19 U	0.0058 U	**0.021**
PCB-Aroclor 1254	0.50	0.049	mg/Kg		**0.25**	**0.3**	**1**	0.0038 U	**0.13**	**0.35**	0.0039 U	**0.17**	**18**	**0.13**	**0.12**	**0.09**	**0.75**	**0.017**	**0.073**
PCB-Aroclor 1260	0.50	0.50	mg/Kg		**0.23**	**0.06**	**0.41**	0.0038 U	**0.047**	**0.24**	0.0039 U	**0.043**	**8.8**	**0.063**	**0.055**	**0.028**	**0.28**	**0.0098**	**0.041**
Total PCBs	0.50	0.035	mg/Kg		**0.48**	**0.47**	**2.01**	0.0095 U	**0.239**	**0.59**	0.0039 U	**0.213**	**47.8**	**0.353**	**0.315 T**	**0.152**	**1.03**	**0.0268**	**0.135**
Pesticides																			
2,4'-DDD	0.0052	0.00026	mg/Kg		**0.00564**	**0.000348**	**0.000916**	0.000115 U	**0.000927**	**0.0346 J**	**0.0000809 J**	**0.000437 J**	**0.0814 J**	**0.000823**	**0.000743**	**0.000742**	**0.00304**	0.0000982 U	**0.000295**
2,4'-DDE	0.0098	0.00049	mg/Kg		**0.00179**	0.000103 U	**0.000399**	0.000115 U	**0.000104 J**	**0.0140 J**	0.000103 U	0.000106 U	**0.00303**	**0.000145**	**0.000156**	0.000112 U	**0.00200 J**	0.0000982 U	0.000102 U
2,4'-DDT	0.077	0.0039	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
4,4'-DDD	0.0052	0.00026	mg/Kg		**0.0461 J**	**0.00117**	**0.0102**	0.000115 U	**0.00443 J**	**0.796 J**	**0.000857**	**0.00174 J**	**0.314 J**	**0.00438**	**0.00476**	**0.00410**	**0.0391 J**	**0.000461**	**0.00121**
4,4'-DDE	0.0098	0.00049	mg/Kg		**0.0241 J**	**0.000456**	**0.0176**	0.000115 U	**0.00148**	**0.265 J**	**0.000425**	**0.000412 J**	**0.169 J**	**0.00186**	**0.00186**	**0.00113**	**0.0330 J**	**0.000354**	**0.000321**
4,4'-DDT	0.077	0.0039	mg/Kg		**0.00198**	**0.000113**	0.000110 U	0.000115 U	**0.0000560 J**	0.00142 UJ	0.000103 U	0.000106 U	**0.00126**	0.000125 U	0.000124 U	**0.0000973 J**	0.000506 U	0.0000982 U	0.000102 U
Aldrin	0.059	0.059	mg/Kg		0.000490 U	0.000160 U	0.000156 U	0.000157 U	0.000159 U	0.00186 UJ	0.000160 U	0.000160 U	0.000412 U	0.000155 U	0.000158 U	0.000158 U	0.000506 U	0.000157 U	0.000158 U
Alpha-BHC	0.00041	0.00010	mg/Kg		0.000490 U	0.000103 U	0.000176 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 UJ	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Beta-BHC	0.56	0.56	mg/Kg		0.000490 U	0.000103 U	0.000144 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 UJ	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Chlorpyrifos	0.0093	0.00047	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
cis-Nonachlor	NE	NE	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Delta-BHC	NE	NE	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 UJ	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Dieldrin	0.029	0.0015	mg/Kg		0.000979 U	0.000206 U	0.000220 U	0.000229 U	0.000219 U	0.00284 UJ	0.000205 U	0.000212 U	**0.0577 J**	0.000250 U	0.000248 U	0.000223 U	0.00102 U	0.000200 U	0.000203 U
Endosulfan II	480	480	mg/Kg		0.000979 U	0.000206 U	0.000220 U	0.000229 U	0.00392 UJ	0.00284 UJ	0.000205 U	0.000613 UJ	**0.0123**	0.000250 U	0.000248 U	0.000701 U	0.00102 U	0.000200 U	0.000423 U
Endosulfan Sulfate	480	480	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Endrin	24	24	mg/Kg		0.000979 U	0.000206 U	0.000220 U	0.000229 U	0.000219 U	0.00284 UJ	0.000205 U	0.000212 U	0.000823 U	0.000250 U	0.000248 U	0.000223 U	0.00102 U	0.000200 U	0.000203 U
Endrin Ketone	24	24	mg/Kg		0.000490 U	0.000206 U	0.000220 U	0.000229 U	0.000219 U	0.00284 UJ	0.000205 U	0.000212 U	0.000412 U	0.000250 U	0.000248 U	0.000223 U	0.000506 U	0.000200 U	0.000203 U
Heptachlor	0.0022	0.00011	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Heptachlor Epoxide	0.019	0.00095	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Hexachlorobenzene	0.018	0.00091	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	**0.000300 J**	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Isodrin	NE	NE	mg/Kg		0.000979 U	0.000206 U	0.000220 U	0.000229 U	0.000219 U	0.00284 UJ	0.000205 U	0.000212 U	0.000823 U	0.000250 U	0.000248 U	0.000223 U	0.00102 U	0.000197 U	0.000203 U
Lindane (Gamma-BHC)	0.91	0.91	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	**0.0000777 J**	0.000412 UJ	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Methoxychlor	400	400	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	**0.00143**	0.0000982 U	0.000102 U
Mirex	0.056	0.056	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 UJ	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
Octachlorostyrene	NE	NE	mg/Kg		0.000490 U	0.000103 U	0.000110 U	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	0.000412 U	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
trans-Nonachlor	NE	NE	mg/Kg		0.000490 U	0.000103 U	**0.000111**	0.000115 U	0.000110 U	0.00142 UJ	0.000103 U	0.000106 U	**0.00157**	0.000125 U	0.000124 U	0.000112 U	0.000506 U	0.0000982 U	0.000102 U
alpha-Chlordane (cis)	0.0058	0.00029	mg/Kg		0.000490 U	**0.0000746 J**	**0.000177**	0.000115 U	**0.000175**	0.00142 UJ	0.000103 U	**0.0000825 J**	**0.00499**	**0.0000801 J**	0.000124 U	**0.0000902 J**	0.000506 U	0.0000982 U	**0.0000896 J**
gamma-Chlordane	0.0058	0.00029	mg/Kg		0.000490 U	**0.000107**	**0.000426**	0.000115 U	**0.000254**	0.00142 UJ	0.000103 U	**0.000109**	**0.00656**	**0.000123 J**	**0.0000917 J**	**0.000167**	0.000506 U	0.0000982 U	**0.000111**
Chlordane (Total)	NE	NE	mg/Kg		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Metals																			
Arsenic	20	20	mg/Kg		**18.9**	**5.4**	**12.9**	**10.8**	**5.5**	**18.9**	**6.0**	**4.2**	**7.2**	**10.8**	**11.0**	**4.5**	**20.9**	**4.5**	**4.9**
Cadmium	80	80	mg/Kg		**2.2 J**	**0.3 J**	**1.0 J**	**0.2 J**	**0.2**	**2.4**	**0.2**	**0.2**	**0.8**	**0.4**	**0.4**	**0.3**	**2.8**	**0.2**	**0.2**
Chromium	120000	120000	mg/Kg		**42.9**	**16.1**	**49**	**20.4**	**17.1**	**59.6**	**16.1**	**13.8**	**41.0**	**28.2**	**27.3**	**14.4**	**70.1**	**17.2**	**16.1**
Copper	36	36	mg/Kg		**61.9**	**20.3**	**55.2**	**36.0**	**22.4**	**97.4**	**21.1**	**16.0**	**62.6**	**49.8**	**50.5**	**17.1**	**75.4**	**14.2**	**18.5**
Lead	250	81	mg/Kg		**122 J**	**8.8 J**	**125 J**	**11.5 J**	**8.5**	**402**	**5.3**	**5.7**	**223**	**23.3**	**17.3**	**7.1**	**508**	**11.7**	**8.8**
Mercury	0.070	0.070	mg/Kg		**0.33**	**0.07**	**1.75**	**0.16**	**0.10**	**0.37**	**0.05**	**0.07 J**	**0.83 J**	**0.27 J**	**0.21 J**	**0.06**	**0.26**	0.03 U	**0.16**
Nickel	48	48	mg/Kg		**26.1**	**15.0**	**22.6**	**18.7**	**15.4**	**27.6**	**14.6**	**11.6**	**13.7**	**24.0**	**26.3**	**12.5**	**28.3**	**10.8**	**15.0**
Silver	400	400	mg/Kg		**0.6**	0.3 U	**0.8**	0.3 U	0.2 U	**0.5**	0.2 U	0.3 U	**0.3**	0.3 U	0.3 U	0.3 U	**0.6**	0.2 U	0.2 U
Zinc	110	85	mg/Kg		**179**	**51**	**153**	**58**	**55**	**430**	**40**	**41**	**120**	**81**	**81**	**42**	**640**	**45**	**46**

Table G-3

RI Soil Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

			Sample Description	SATURATED	SATURATED	SATURATED	VADOSE	VADOSE	VADOSE	SATURATED	SATURATED	SATURATED
			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	EIM_FS2154	EIM_FS2154	EIM_FS2154
			Location ID:	MW-19	MW-19	MW-19	HA-1	HA-2	HA-3	2154-MWA	2154-MWB	2154-MWC
			Sample ID:	MW-19-12.5-DUP	MW-19-20.0	MW-19-32.5	HA-1-0.5	HA-2-0.5	HA-3-0.5	ICS-MWA-25-50-021215	ICS-MWB-25-50-021215	ICS-MWC-25-50-021315
			Sample Depth:	12.5-13.5 ft	20-21 ft	32.5-33.5 ft	0.5-1.5 ft	0.5-1.5 ft	0.5-1.5 ft	24.5-26 ft	24.5-26 ft	24.5-26 ft
			Date Sampled:	07/10/13	07/10/13	07/10/13	07/10/13	07/10/13	07/10/13	02/12/15	02/12/15	02/13/15
Parameter	**Vadose Zone Screening Level**	**Saturated Zone Screening Level**	**Units**									
Polychlorinated Biphenyls (PCBs)												
PCB-Aroclor 1242	**NE**	**NE**	mg/Kg	0.0038 U	0.0038 U	0.0040 U	0.039 U	0.038 U	0.039 U	0.004 U	0.0039 U	0.0039 U
PCB-Aroclor 1248	**NE**	**NE**	mg/Kg	**0.029**	**0.06**	0.0040 U	0.78 U	0.58 U	**0.27**	0.012 U	0.039 U	0.0059 U
PCB-Aroclor 1254	**0.50**	**0.049**	mg/Kg	**0.08**	**0.13**	0.0040 U	**0.96**	**1**	**0.41**	**0.023**	**0.014 J**	**0.014 J**
PCB-Aroclor 1260	**0.50**	**0.50**	mg/Kg	**0.039**	**0.046**	0.0040 U	**0.49**	**0.83**	**0.26**	**0.0084**	**0.0063**	**0.0037 J**
Total PCBs	**0.50**	**0.035**	mg/Kg	**0.148 T**	**0.236**	0.0040 U	**1.45**	**1.83**	**0.94**	**0.0314**	**0.0203**	**0.0177**
Pesticides												
2,4'-DDD	**0.0052**	**0.00026**	mg/Kg	0.000345 U	**0.000589**	0.000124 U	**0.00353**	**0.000565**	**0.00514**	–	–	–
2,4'-DDE	**0.0098**	**0.00049**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	**0.00164**	**0.000188**	**0.00269**	–	–	–
2,4'-DDT	**0.077**	**0.0039**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	**0.000653**	0.000105 U	**0.000471**	–	–	–
4,4'-DDD	**0.0052**	**0.00026**	mg/Kg	**0.00113**	**0.00234**	0.000124 U	**0.0100**	**0.00179**	**0.0151**	–	–	–
4,4'-DDE	**0.0098**	**0.00049**	mg/Kg	0.000272 U	**0.000705**	0.000124 U	**0.0243**	**0.00314**	**0.0400**	–	–	–
4,4'-DDT	**0.077**	**0.0039**	mg/Kg	0.000102 U	**0.000187**	0.000124 U	**0.00210**	**0.000168**	**0.00146**	–	–	–
Aldrin	**0.059**	**0.059**	mg/Kg	0.000159 U	0.000160 U	0.000159 U	0.000158 U	0.000159 U	0.000160 U	–	–	–
Alpha-BHC	**0.00041**	**0.00010**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
Beta-BHC	**0.56**	**0.56**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
Chlorpyrifos	**0.0093**	**0.00047**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
cis-Nonachlor	**NE**	**NE**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	**0.000170**	0.000105 U	**0.000345**	–	–	–
Delta-BHC	**NE**	**NE**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000970 U	0.000105 U	0.000105 U	–	–	–
Dieldrin	**0.029**	**0.0015**	mg/Kg	0.000203 U	0.000223 U	0.000247 U	**0.000587**	0.000210 U	**0.000531**	–	–	–
Endosulfan II	**480**	**480**	mg/Kg	0.000203 U	0.00342 U	0.000247 U	0.000200 U	0.00432 U	**0.00298**	–	–	–
Endosulfan Sulfate	**480**	**480**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
Endrin	**24**	**24**	mg/Kg	0.000203 U	0.000223 U	0.000247 U	0.000200 U	0.000210 U	0.000209 U	–	–	–
Endrin Ketone	**24**	**24**	mg/Kg	0.000203 U	0.000223 U	0.000247 U	0.000200 U	0.000210 U	0.000209 U	–	–	–
Heptachlor	**0.0022**	**0.00011**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
Heptachlor Epoxide	**0.019**	**0.00095**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
Hexachlorobenzene	**0.018**	**0.00091**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	**0.000138**	**0.0000974 J**	**0.000154**	–	–	–
Isodrin	**NE**	**NE**	mg/Kg	0.000203 U	0.000223 U	0.000247 U	0.000193 U	0.000210 U	0.000209 U	–	–	–
Lindane (Gamma-BHC)	**0.91**	**0.91**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
Methoxychlor	**400**	**400**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	**0.000189**	0.000105 U	0.000105 U	–	–	–
Mirex	**0.056**	**0.056**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
Octachlorostyrene	**NE**	**NE**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	0.0000962 U	0.000105 U	0.000105 U	–	–	–
trans-Nonachlor	**NE**	**NE**	mg/Kg	0.000102 U	0.000112 U	0.000124 U	**0.000478**	**0.000155**	**0.00126**	–	–	–
alpha-Chlordane (cis)	**0.0058**	**0.00029**	mg/Kg	0.000102 U	**0.000136**	0.000124 U	**0.000755**	**0.000183**	**0.00195**	–	–	–
gamma-Chlordane	**0.0058**	**0.00029**	mg/Kg	0.000102 U	**0.000182**	0.000124 U	**0.00117**	**0.000254**	**0.00286**	–	–	–
Chlordane (Total)	**NE**	**NE**	mg/Kg	–	–	–	--	--	--	–	–	–
Metals												
Arsenic	**20**	**20**	mg/Kg	**5.5**	**6.9**	**10.7**	**16.5**	**21.2**	**15.0**	–	–	–
Cadmium	**80**	**80**	mg/Kg	**0.2**	**0.3**	**0.3**	**0.6**	**0.4**	**0.5**	–	–	–
Chromium	**120000**	**120000**	mg/Kg	**19.4**	**17.6**	**29.9**	**30.6**	**29.3**	**29.3**	–	–	–
Copper	**36**	**36**	mg/Kg	**23.9**	**25.0**	**47.9**	**57.7**	**47.6**	**55.4**	–	–	–
Lead	**250**	**81**	mg/Kg	**12.9**	**11.7**	**12.6**	**78.9**	**53.0**	**71.9**	–	–	–
Mercury	**0.070**	**0.070**	mg/Kg	**0.17**	**0.09**	**0.19**	**0.36**	**0.17**	**0.69**	–	–	–
Nickel	**48**	**48**	mg/Kg	**17.7**	**16.1**	**30.3**	**26.6**	**25.9**	**26.3**	–	–	–
Silver	**400**	**400**	mg/Kg	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	–	–	–
Zinc	**110**	**85**	mg/Kg	**58**	**58**	**70**	**187**	**147**	**143**	–	–	–

Notes:

J = estimated value; T = summed result

mg/kg = milligrams per kilogram; U = not detected

NE = a Screening Level was not established for this analyte (see Table 9)

PCB - polychlorinated biphenyls

Bold = detected value

Orange Fill indicates detected result for saturated zone sample > the Screening Level for saturated soil

Yellow Fill indicates detected result for vadose zone sample > the Screening Level for vadose zone soil

Blue Fill indicates not detected with reporting limit > the Screening Level

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL
			Location ID:	DMC*MW-01	DMC*MW-01	DMC*MW-01	DMC*MW-01	DMC*MW-01	DMC*MW-01	MW-2	MW-2	MW-2	MW-2	MW-2	DMC*MW-03	DMC*MW-03	DMC*MW-03
			Sample ID:	MW-1_11011990	MW-1_09051991	MW-1_01101992	MW-1-FD_01101992	MW-1_04091992	MW-1_08161992	MW-2_11011990	MW-2_09051991	MW-2_01101992	MW-2_04091992	MW-2_08161992	MW-3_11011990	MW-3_12181990	MW-3_09051991
			Date Sampled:	11/01/90	09/05/91	01/10/92	01/10/92	04/09/92	08/16/92	11/01/90	09/05/91	01/10/92	04/09/92	08/16/92	11/01/90	12/18/90	09/05/91
Parameter	**Screening Level**	**Units**															
Total Petroleum Hydrocarbons (TPH)																	
Total Petroleum Hydrocarbons	**500**	µg/L	**590**	10000 U	2000 U	2000 U	–	–	**560**	10000 U	2000 U	–	–	**330**	–	10000 U
Gasoline-range hydrocarbons	**800**	µg/L	–	–	–	–	250 U	250 U	–	–	–	**140 J**	250 U	–	–	–
Diesel-range hydrocarbons	**500**	µg/L	–	–	–	–	250 U	250 U	–	–	–	**580**	250 U	–	–	–
Lube Oil-range Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	–	–	–	–	250 U	250 U	–	–	–	**580**	250 U	–	–	–
Volatile Organic Compounds (VOCs)																	
1,1,1-Trichloroethane	**200000**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloroethane	**0.90**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloroethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloropropene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2,3-Trichlorobenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trichlorobenzene	**0.50**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trimethylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloroethane	**73**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloropropane	**31**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,3,5-Trimethylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Butanone (MEK)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Chlorotoluene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Hexanone	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Acetone	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzene	**1.6**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**88**	**110**	**65**	1.0 U	1.0 U	**420.0**	**670**
Bromobenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Bromomethane	**270**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Carbon Disulfide	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chlorobenzene	**800**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloroethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloroform	**150**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloromethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
cis-1,2-Dichloroethene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethylbenzene	**31**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.1**	**13.0**	**16**
Isopropylbenzene (Cumene)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Methyl Iodide (Iodomethane)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Methylene Chloride	**100**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
n-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
n-Propylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
p-Isopropyltoluene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Sec-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Styrene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tert-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tetrachloroethene	**2.9**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Toluene	**130**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.5**	**3.2**
Trans-1,2-Dichloroethene	**4000**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Trichloroethene	**0.70**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Vinyl Chloride	**10**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Xylene, m-,p-	**NE**	µg/L	1.0 U	–	–	–	–	–	1.0 U	–	–	–	–	**5.3**	**45.0**	–
Xylene, o-	**NE**	µg/L	1.0 U	–	–	–	–	–	1.0 U	–	–	–	–	1.0 U	**3.4**	–

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

Parameter	Screening Level	Units	Sampling Event: HISTORICAL Location ID: DMC*MW-03 Sample ID: MW-3_01101992 Date Sampled: 01/10/92	Sampling Event: HISTORICAL Location ID: DMC*MW-03 Sample ID: MW-3_04091992 Date Sampled: 04/09/92	Sampling Event: HISTORICAL Location ID: DMC*MW-03 Sample ID: MW-3_08161992 Date Sampled: 08/16/92	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4_11011990 Date Sampled: 11/01/90	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4-FD_11011990 Date Sampled: 11/01/90	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4_12181990 Date Sampled: 12/18/90	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4-FD_12181990 Date Sampled: 12/18/90	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4_09051991 Date Sampled: 09/05/91	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4_01101992 Date Sampled: 01/10/92	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4_04091992 Date Sampled: 04/09/92	Sampling Event: HISTORICAL Location ID: DMC*MW-04 Sample ID: MW-4_08161992 Date Sampled: 08/16/92	Sampling Event: HISTORICAL Location ID: DMC*MW-05 Sample ID: MW-5_12181990 Date Sampled: 12/18/90	Sampling Event: HISTORICAL Location ID: DMC*MW-05 Sample ID: MW-5_01101992 Date Sampled: 01/10/92	Sampling Event: HISTORICAL Location ID: DMC*MW-05 Sample ID: MW-5_04091992 Date Sampled: 04/09/92
Total Petroleum Hydrocarbons (TPH)																		
Total Petroleum Hydrocarbons	**500**	µg/L	2000 U	–	–	**270**	–	–	–	10000 U	2000 U	–	–	–	2000 U	–
Gasoline-range hydrocarbons	**800**	µg/L	–	**720**	**310**	–	–	–	–	–	–	**150 J**	**220 J**	–	–	250 U
Diesel-range hydrocarbons	**500**	µg/L	–	250 U	**300**	–	–	–	–	–	–	250 U	250 U	–	–	250 U
Lube Oil-range Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	–	250 U	**300**	–	–	–	–	–	–	250 U	250 U	–	–	250 U
Volatile Organic Compounds (VOCs)																
1,1,1-Trichloroethane	**200000**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloroethane	**0.90**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloroethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,1-Dichloropropene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2,3-Trichlorobenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trichlorobenzene	**0.50**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2,4-Trimethylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloroethane	**73**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,2-Dichloropropane	**31**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,3,5-Trimethylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Butanone (MEK)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Chlorotoluene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2-Hexanone	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Acetone	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzene	**1.6**	µg/L	**500**	**620**	**910**	**4200**	**3700**	**3600**	**4100**	**2000**	**2700**	**1800**	**3400**	5.0 U	1.0 U	1.0 U
Bromobenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Bromomethane	**270**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Carbon Disulfide	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chlorobenzene	**800**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloroethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloroform	**150**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Chloromethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
cis-1,2-Dichloroethene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Ethylbenzene	**31**	µg/L	**14**	**9.1**	**9.4**	**2.1**	**1.4**	50 U	50 U	1.0 U	**4.1**	1.0 U	**4.6**	5.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Methyl Iodide (Iodomethane)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Methylene Chloride	**100**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
n-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
n-Propylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
p-Isopropyltoluene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Sec-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Styrene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tert-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Tetrachloroethene	**2.9**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Toluene	**130**	µg/L	**3.8**	**3.0**	**3.2**	**8.3**	**6.9**	50 U	50 U	**12**	**11**	**6.2**	**12**	5.0 U	1.0 U	1.0 U
Trans-1,2-Dichloroethene	**4000**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Trichloroethene	**0.70**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Vinyl Chloride	**10**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Xylene, m-,p-	**NE**	µg/L	–	–	–	1.0 U	**1.9**	**63**	**64**	–	–	–	–	5.0 U	–	–
Xylene, o-	**NE**	µg/L	–	–	–	**4.2**	**4.0**	50 U	50 U	–	–	–	–	5.0 U	–	–

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	HISTORICAL	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE
			Location ID:	DMC*MW-05	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-7	MW-7	DMC*SP-01	DMC*MW-01	DMC*MW-03	DMC*MW-04
			Sample ID:	MW-5_08161992	MW-6_12181990	MW-6_01101992	MW-6_04091992	MW-6-FD_04091992	MW-6_08161992	MW-7_12181990	MW-7_09051991	MW-7_01101992	MW-7_04091992	MW-7_08161992	SP-01-071808	MW-01-071608	MW-03-071608	MW-04-071608
			Date Sampled:	08/16/92	12/18/90	01/10/92	04/09/92	04/09/92	08/16/92	12/18/90	09/05/91	01/10/92	04/09/92	08/16/92	07/18/08	07/16/08	07/16/08	07/16/08
Parameter	**Screening Level**	**Units**																
Total Petroleum Hydrocarbons (TPH)																		
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	2000 U	–	–	–	–	10000 U	2000 U	–	–	–	–	–	–	
Gasoline-range hydrocarbons	**800**	µg/L	250 U	–	–	250 U	250 U	250 U	–	–	–	250 U	250 U	–	–	–	–	**350 J**
Diesel-range hydrocarbons	**500**	µg/L	**280**	–	–	**4200**	**4600**	**1100**	–	–	–	**6600**	**730**	–	250 U	–	**730 J**	
Lube Oil-range Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	500 U	–	520 U	
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	**280**	–	–	**4200**	**4600**	**1100**	–	–	–	**6600**	**730**	–	500 U	–	**730 J**	
Volatile Organic Compounds (VOCs)																		
1,1,1-Trichloroethane	**200000**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
1,1,2-Trichloroethane	**0.90**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
1,1-Dichloroethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
1,1-Dichloropropene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
1,2,3-Trichlorobenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
1,2,4-Trichlorobenzene	**0.50**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
1,2,4-Trimethylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
1,2-Dichloroethane	**73**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	**2.5**	**2.9**	
1,2-Dichloropropane	**31**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
1,3,5-Trimethylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	**2.3**	
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
2-Butanone (MEK)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	20 U	20 U	20 U	20 U	
2-Chlorotoluene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
2-Hexanone	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	20 U	20 U	20 U	20 U	
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	20 U	20 U	20 U	20 U	
Acetone	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	20 U	20 U	20 U	20 U	
Benzene	**1.6**	µg/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	**2.0**	**1.7**	**1.6**	**1.1**	0.5 U	0.5 U	**89 J**	**100 J**	
Bromobenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
Bromomethane	**270**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Carbon Disulfide	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Chlorobenzene	**800**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Chloroethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Chloroform	**150**	µg/L	–	–	–	–	–	–	–	–	–	–	–	**1.7**	0.5 U	0.5 U	0.5 U	
Chloromethane	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
cis-1,2-Dichloroethene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Ethylbenzene	**31**	µg/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	0.5 U	**0.89**	
Isopropylbenzene (Cumene)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
Methyl Iodide (Iodomethane)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Methylene Chloride	**100**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
n-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	**3.5**	
n-Propylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
p-Isopropyltoluene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
Sec-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
Styrene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Tert-Butylbenzene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	2 U	2 U	2 U	2 U	
Tetrachloroethene	**2.9**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Toluene	**130**	µg/L	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	**70**	**4.2**	1.0 U	**22**	0.5 U	0.5 U	**0.89**	**3.9**	
Trans-1,2-Dichloroethene	**4000**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Trichloroethene	**0.70**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Vinyl Chloride	**10**	µg/L	–	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	
Xylene, m-,p-	**NE**	µg/L	–	5.0 U	–	–	–	–	5.0 U	–	–	–	–	0.5 U	0.5 U	**1.9**	**15**	
Xylene, o-	**NE**	µg/L	–	5.0 U	–	–	–	–	5.0 U	–	–	–	–	0.5 U	0.5 U	**0.78**	**1.6**	

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

	Sampling Event:		EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
	Location ID:		DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	DP-10	DP-11	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11
	Sample ID:		MW-05-071708	MW-08-071708	MW-09-071708	MW-10-071708	MW-11-071708	MW-12-071608	DP-10	DP-11	MW-1-08152013	MW-3-08162013	MW-4-08162013	MW-5-08152013	MW-8-08142013	MW-9-08152013	MW-10-08152013	MW-11-08152013
	Date Sampled:		07/17/08	07/17/08	07/17/08	07/17/08	07/17/08	07/16/08	07/08/13	07/08/13	08/15/13	08/16/13	08/16/13	08/15/13	08/14/13	08/15/13	08/16/13	08/15/13
Parameter	**Screening Level**	**Units**																
Total Petroleum Hydrocarbons (TPH)																		
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**800**	µg/L	–	–	–	–	–	250 U	**4900**	**1000**	250 U	250 U	**23000**	250 U	250 U	250 U	250 U	250 U
Diesel-range hydrocarbons	**500**	µg/L	**750 J**	–	–	–	–	**680 J**	**1900**	**990**	**270**	**320**	**2700**	**240**	100 U	100 U	**150**	100 U
Lube Oil-range Hydrocarbons	**500**	µg/L	500 U	–	–	–	–	500 U	**390**	**410**	**220**	200 U	**350**	200 U	200 U	200 U	200 U	200 U
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	**750 J**	–	–	–	–	**680 J**	**2290**	**1400**	**490**	**320**	**3050**	**240**	200 U	200 U	**150**	200 U
Volatile Organic Compounds (VOCs)																		
1,1,1-Trichloroethane	**200000**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	–	–	–	–	–	–	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	**0.90**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**3.4**	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloropropene	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,3-Trichlorobenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	0.50 U	0.50 U	0.50 UJ	0.50 U	7.5 U	0.50 UJ	0.50 U	0.50 UJ	0.50 UJ	0.50 UJ
1,2,4-Trichlorobenzene	**0.50**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	0.50 U	0.50 U	0.50 U	0.50 U	7.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**3.6**	**0.29**	0.20 U	0.20 U	**64**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	**73**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.5**	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	**31**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3,5-Trimethylbenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**2.1**	0.20 U	0.20 U	0.20 U	**71**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Butanone (MEK)	**NE**	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	75 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorotoluene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Hexanone	**NE**	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	75 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	75 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	**NE**	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	5.0 U	5.0 U	5.0 U	**8.5**	75 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	**1.6**	µg/L	0.5 U	0.5 U	**0.8**	**1.1**	0.5 U	**59**	**360**	**1.4**	0.20 U	**7.9**	**29**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromobenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromomethane	**270**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chlorobenzene	**800**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroethane	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroform	**150**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	**3.6**	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloromethane	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	7.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylbenzene	**31**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**97**	**0.22**	0.20 U	0.20 U	**270**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Isopropylbenzene (Cumene)	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**33**	**2.2**	0.20 U	0.20 U	**31**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Methyl Iodide (Iodomethane)	**NE**	µg/L	–	–	–	–	–	–	1.0 U	1.0 U	1.0 U	1.0 U	15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	**100**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	1.0 U	1.0 U	1.0 U	1.0 U	15 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**13**	**12**	0.20 U	0.20 U	**41**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Propylbenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**110**	**8.1**	0.20 U	**0.38**	**100**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
p-Isopropyltoluene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**0.72**	0.20 U	0.20 U	0.20 U	**9.4**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Sec-Butylbenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**5.4**	**3.1**	0.20 U	0.20 U	**13**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Styrene	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Tert-Butylbenzene	**NE**	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	**0.22**	**0.25**	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Tetrachloroethene	**2.9**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	**130**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.73**	**9.2**	**0.96**	0.20 U	**0.49**	**3.6**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trans-1,2-Dichloroethene	**4000**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichloroethene	**0.70**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Vinyl Chloride	**10**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.20 U	0.20 U	0.20 U	0.20 U	3.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Xylene, m-,p-	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**29**	**2.1**	0.40 U	**1.1**	**37**	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Xylene, o-	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.8**	**0.34**	0.20 U	**0.48**	**3.1**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

	Sampling Event:		RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2
	Location ID:		DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-17	MW-18	MW-19	MW-2R	SEEP-1	SP-1	SP-1	DMC*MW-01	DMC*MW-03	DMC*MW-04
	Sample ID:		MW-12-08152013	MW-13-08142013	MW-14-08192013	MW-15-08152013	MW-16-08192013	MW-17-08192013	MW-DUP-08192013	MW-18-08202013	MW-19-08202013	MW-2R-08202013	GEI-SEEP-1-090313	DUP-L-090403	GEI-SP-1	MW-1-20131216	MW-3-131216	MW-4-20131216
	Date Sampled:		08/16/13	08/14/13	08/19/13	08/15/13	08/19/13	08/19/13	08/19/13	08/20/13	08/20/13	08/20/13	09/03/13	09/04/13	09/04/13	12/16/13	12/16/13	12/16/13
Parameter	**Screening Level**	**Units**																
Total Petroleum Hydrocarbons (TPH)																		
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**800**	µg/L	**310**	250 U	250 U	250 U	250 U	250 U	250 U	250 U	**420**	**320**	250 U	250 U	250 U	250 U	**360**	**5100**
Diesel-range hydrocarbons	**500**	µg/L	**410**	100 U	100 U	**140**	**360**	**300 J**	**430 J**	**430**	**1100**	**570**	**970**	100 U	100 U	**260**	**310**	**2000**
Lube Oil-range Hydrocarbons	**500**	µg/L	200 U	200 U	200 U	200 U	**390**	**230**	**350**	**270**	**260**	**500**	**1700**	200 U	200 U	**240**	200 U	**410**
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	**410**	200 U	200 U	**140**	**750**	**530 J**	**780 J**	**700**	**1360**	**1070**	**2670**	200 U	200 U	**500**	**310**	**2410**
Volatile Organic Compounds (VOCs)																		
1,1,1-Trichloroethane	**200000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	**0.90**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloropropene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,3-Trichlorobenzene	**NE**	µg/L	0.50 UJ	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	**0.50**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	**0.14 J**	0.20 U	0.20 U	**0.12 J**	**0.78**	**0.42**	0.20 U	0.20 U	0.20 U	0.20 U	**0.38**	**18**
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	**73**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	**31**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3,5-Trimethylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**32**
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Butanone (MEK)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**9.8**	5.0 U
2-Chlorotoluene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Hexanone	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**4.2 J**	**3.9 J**	5.0 U	**6.6**	**5.2**	5.8 U	**11 NJ**	**2.9 NJ**	**5.3**	**9.8**	**4.8 J**
Benzene	**1.6**	µg/L	**0.55**	0.20 U	0.20 U	0.20 U	**49**	**0.12 J**	**0.11 J**	0.20 U	**27**	**66**	0.20 U	0.20 U	0.20 U	0.20 U	**10**	**15**
Bromobenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromomethane	**270**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	**0.48**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.12 J**	0.20 U
Chlorobenzene	**800**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroform	**150**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloromethane	**NE**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	**NE**	µg/L	**0.24**	0.20 U	0.20 U	0.20 U	**0.21**	**0.11 J**	**0.13 J**	**0.19 J**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylbenzene	**31**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**2.3**	**2.4**	0.20 U	**2.0**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.34**	**52**
Isopropylbenzene (Cumene)	**NE**	µg/L	**0.28**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.12 J**	**4.6**	**1.7**	0.20 U	0.20 U	0.20 U	0.20 U	**1.2**	**7.7**
Methyl Iodide (Iodomethane)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	**100**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**5.0**
n-Propylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**7.6**	**1.1**	0.20 U	0.20 U	0.20 U	0.20 U	**3.0**	**17**
p-Isopropyltoluene	**NE**	µg/L	0.20 U	0.20 U	**1.4**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**2.9**
Sec-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.22**	**2.6**
Styrene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Tert-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.18 J**
Tetrachloroethene	**2.9**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	**130**	µg/L	0.20 U	**0.11 J**	0.20 U	0.20 U	**0.19 J**	0.20 U	0.20 U	0.20 U	**2.9**	**2.2**	0.20 U	0.20 U	0.20 U	0.20 U	**1.1**	**1.6**
Trans-1,2-Dichloroethene	**4000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichloroethene	**0.70**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Vinyl Chloride	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Xylene, m-,p-	**NE**	µg/L	**0.69**	0.40 U	0.40 U	0.40 U	**0.35 J**	0.40 U	0.40 U	0.40 U	**11**	**7.8**	0.40 U	0.40 U	0.40 U	0.40 U	**5.4**	**16**
Xylene, o-	**NE**	µg/L	**0.42**	0.20 U	0.20 U	0.20 U	**0.18 J**	0.20 U	0.20 U	0.20 U	**1.9**	**2.0**	0.20 U	0.20 U	0.20 U	0.20 U	**1.0**	**2.0**

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

	Sampling Event:		RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2
	Location ID:		DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-18	MW-19	MW-2R
	Sample ID:		MW-5-20131226	MW-8-20131219	MW-9-131216	MW-10-20131216	MW-11-20131226	MW-12-131216	MW-13-20131217	MW-14-20131217	MW-15-20131226	MW-16-20131216	MW-17-20131220	MW-18-20131219	MW-DUP-20131219	MW-19-131216	MW-2R-20131220
	Date Sampled:		12/26/13	12/19/13	12/16/13	12/16/13	12/26/13	12/16/13	12/17/13	12/17/13	12/26/13	12/16/13	12/20/13	12/19/13	12/19/13	12/16/13	12/20/13
Parameter	**Screening Level**	**Units**															
Total Petroleum Hydrocarbons (TPH)																	
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**800**	µg/L	250 U	250 U	250 U	250 U	250 U	**550**	250 U	250 U	250 U	250 U	250 U	250 U	250 U	**690**	**390**
Diesel-range hydrocarbons	**500**	µg/L	**200**	100 U	100 U	100 U	100 U	**550**	100 U	**990**	**130**	**270**	**440**	**420**	**440**	100 U	**780**
Lube Oil-range Hydrocarbons	**500**	µg/L	200 U	200 U	200 U	200 U	200 U	**350**	200 U	**370**	200 U	**250**	**470**	**380**	**360**	200 U	**980**
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	**200**	200 U	200 U	200 U	200 U	**900**	200 U	**1360**	**130**	**520**	**910**	**800**	**800**	200 U	**1760**
Volatile Organic Compounds (VOCs)																	
1,1,1-Trichloroethane	**200000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	**0.90**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloropropene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,3-Trichlorobenzene	**NE**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	**0.50**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.15 J**	0.20 U	0.20 U	0.20 U	**0.19 J**	0.20 U	0.20 U	**0.24**	**0.73**	**0.64**
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	**73**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	**31**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3,5-Trimethylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Butanone (MEK)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorotoluene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Hexanone	**NE**	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	**NE**	µg/L	3.5 U	**4.0 J**	**3.8 J**	**3.0 J**	5.0 U	**2.9 J**	**3.0 J**	**2.4 J**	3.1 U	**2.9 J**	**4.3 J**	**2.8 J**	**3.3 J**	**4.8 J**	**3.9 J**
Benzene	**1.6**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.12 J**	0.20 U	0.20 U	0.20 U	**78**	**0.22**	0.20 U	0.20 U	**25**	**65**
Bromobenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromomethane	**270**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.25**	0.20 U	0.20 U
Chlorobenzene	**800**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroform	**150**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	**0.43**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloromethane	**NE**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
cis-1,2-Dichloroethene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.18 J**	0.20 U	0.20 U	0.20 U	**0.30**	0.20 U	**0.18 J**	**0.11 J**	0.20 U	0.20 U
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylbenzene	**31**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.05 J**	0.20 U	0.20 U	0.20 U	**0.18 J**	**1.2**	0.20 U	0.20 U	**2.1**	**0.15 J**
Isopropylbenzene (Cumene)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.43**	0.20 U	0.20 U	0.20 U	**0.36**	0.20 U	0.20 U	0.20 U	**6.1**	**2.3**
Methyl Iodide (Iodomethane)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	**100**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.27**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Propylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.10 J**	0.20 U	0.20 U	0.20 U	**1.1**	0.20 U	0.20 U	0.20 U	**9.6**	**1.6**
p-Isopropyltoluene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.05 J**	0.20 U	**0.08 J**
Sec-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.16 J**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.20**	**0.03 J**
Styrene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Tert-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Tetrachloroethene	**2.9**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	**130**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	**0.15 J**	**0.22**	0.20 U	0.20 U	0.20 U	**0.46**	0.20 U	0.20 U	0.20 U	**3.3**	**2.9**
Trans-1,2-Dichloroethene	**4000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichloroethene	**0.70**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Vinyl Chloride	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Xylene, m-,p-	**NE**	µg/L	0.40 U	0.40 U	0.40 U	0.40 U	**0.11 J**	**1.0**	0.40 U	0.40 U	0.40 U	**1.9**	0.40 U	0.40 U	0.40 U	**13**	**11**
Xylene, o-	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.44**	0.20 U	0.20 U	0.20 U	**0.45**	0.20 U	0.20 U	0.20 U	**1.9**	**2.8**

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

Parameter	Screening Level	Units	Sampling Event:	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3
			Location ID:	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19
			Sample ID:	MW-1-031914	MW-3-031914	MW-4-031714	MW-5-031714	MW-8-031914	MW-9-031914	MW-10-031914	MW-11-031914	MW-12-031914	MW-13-032014	MW-14-031814	MW-15-032014	MW-16-031714	MW-17-031714	MW-18-031814	DUP-GW-031714
			Date Sampled:	03/19/14	03/19/14	03/17/14	03/17/14	03/19/14	03/19/14	03/19/14	03/19/14	03/19/14	03/20/14	03/18/14	03/20/14	03/17/14	03/17/14	03/18/14	03/17/14
Total Petroleum Hydrocarbons (TPH)																			
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**800**	µg/L	250 U	**290**	**9500**	250 U	250 U	250 U	250 U	250 U	250 U	**500**	250 U	250 U	250 U	**390**	250 U	250 U	**8200**
Diesel-range hydrocarbons	**500**	µg/L	**360**	**350**	**2700**	**350**	100 U	100 U	**360**	100 U	**530**	100 U	100 U	**150**	**480**	**370**	**600**	**2100**	
Lube Oil-range Hydrocarbons	**500**	µg/L	**320**	200 U	**440**	**240**	200 U	200 U	**240**	200 U	**230**	200 U	200 U	200 U	200 U	**290**	**330**	**440**	
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	**680**	**350**	**3140**	**590**	200 U	200 U	**600**	200 U	**760**	200 U	200 U	**150**	**480**	**660**	**930**	**2540**	
Volatile Organic Compounds (VOCs)																			
1,1,1-Trichloroethane	**200000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	**0.90**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloropropene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,3-Trichlorobenzene	**NE**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	**0.50**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trimethylbenzene	**NE**	µg/L	0.20 U	**0.25**	**41**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.49**	0.20 U	0.20 U	**32**
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	**73**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	**31**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3,5-Trimethylbenzene	**NE**	µg/L	0.20 U	0.20 U	**55**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**48**
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Butanone (MEK)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Chlorotoluene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Hexanone	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	**NE**	µg/L	5.0 U	**6.6**	**5.4**	5.0 U	5.0 U	**2.5 J**	**2.2 J**	5.0 U	**2.7 J**	5.0 U	5.0 U	5.0 U	**2.6 J**	**4.6 J**	**2.2 J**	5.0 U	5.0 U
Benzene	**1.6**	µg/L	0.20 U	**7.1**	**37**	0.20 U	0.20 U	0.20 U	**0.30**	0.20 U	**0.28**	0.20 U	0.20 U	0.20 U	0.20 U	**22**	**0.17 J**	0.20 U	**30**
Bromobenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromomethane	**270**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chlorobenzene	**800**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroform	**150**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloromethane	**NE**	µg/L	0.50 U	0.50 U	0.50 UJ	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 UJ	0.50 U	0.50 UJ
cis-1,2-Dichloroethene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.11 J**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.13 J**	0.20 U
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	0.20 UJ	0.20 UJ	0.20 UJ	0.20 UJ	0.20 U	0.20 U	0.20 U	0.20 U	0.20 UJ	0.20 UJ	0.20 U	0.20 UJ
Ethylbenzene	**31**	µg/L	0.20 U	**0.12 J**	**41**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.57**	**0.56**	0.20 U	**34**
Isopropylbenzene (Cumene)	**NE**	µg/L	0.20 U	**0.46**	**6.3**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.30**	0.20 U	0.20 U	0.20 U	**0.92**	0.20 U	0.20 U	**5.9**	
Methyl Iodide (Iodomethane)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Methylene Chloride	**100**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Propylbenzene	**NE**	µg/L	0.20 U	**1.0**	**13**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**2.5**	0.20 U	0.20 U	**13**
p-Isopropyltoluene	**NE**	µg/L	0.20 U	0.20 U	**4.3**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**3.6**
Sec-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	**2.5**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**2.4**
Styrene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Tert-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	**0.18 J**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.14 J**
Tetrachloroethene	**2.9**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	**130**	µg/L	0.20 U	**0.69**	**2.6**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.23**	0.20 U	0.20 U	0.20 U	**0.66**	0.20 U	0.20 U	**2.2**	
Trans-1,2-Dichloroethene	**4000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichloroethene	**0.70**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Vinyl Chloride	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Xylene, m-,p-	**NE**	µg/L	0.40 U	**2.8**	**25**	0.40 U	0.40 U	0.40 U	**0.38 J**	0.40 U	**0.82**	0.40 U	0.40 U	0.40 U	**4.9**	0.40 U	0.40 U	**21**	
Xylene, o-	**NE**	µg/L	0.20 U	**0.75**	**3.0**	0.20 U	0.20 U	0.20 U	**0.14 J**	0.20 U	**0.40**	0.20 U	0.20 U	0.20 U	**0.77**	0.20 U	0.20 U	**2.7**	

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4
			Location ID:	MW-19	MW-2R	SEEP-1	SP-1	SP-1	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13
			Sample ID:	MW-19-031714	MW-2R-031814	GEI-SEEP-1-032014	DUP-SP-1-032014	GEI-SP1-032014	MW-1-71514	MW-3-71614	MW-4-71614	MW-5-71714	MW-8-140714	MW-9-140714	MW-10-71514	MW-11-71414	MW-12-71514	MW-13-140714
			Date Sampled:	03/17/14	03/18/14	03/20/14	03/20/14	03/20/14	07/15/14	07/16/14	07/16/14	07/17/14	07/14/14	07/14/14	07/15/14	07/14/14	07/15/14	07/14/14
Parameter	**Screening Level**	**Units**																
Total Petroleum Hydrocarbons (TPH)																		
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**800**	µg/L	**1000**	**750**	250 U	250 U	250 U	250 U	250 U	**7500**	250 U	250 U	250 U	250 U	250 U	**680**	250 U	
Diesel-range hydrocarbons	**500**	µg/L	**1100**	**500**	**600**	100 U	100 U	**270**	**340**	**2500**	**320**	100 U	100 U	100 U	100 U	**540**	100 U	
Lube Oil-range Hydrocarbons	**500**	µg/L	**400**	**200**	**360**	200 U	200 U	200 U	200 U	**500**	**220**	200 U	200 U	200 U	200 U	**200**	200 U	
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	**1500**	**700**	**960**	200 U	200 U	**270**	**340**	**3000**	**540**	200 U	200 U	200 U	200 U	**740**	200 U	
Volatile Organic Compounds (VOCs)																		
1,1,1-Trichloroethane	**200000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,1,2-Trichloroethane	**0.90**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,1-Dichloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,1-Dichloropropene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,2,3-Trichlorobenzene	**NE**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
1,2,4-Trichlorobenzene	**0.50**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
1,2,4-Trimethylbenzene	**NE**	µg/L	**1.2**	**1.2**	0.20 U	0.20 U	0.20 U	0.20 U	**0.21**	**23**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.12 J**	0.20 U	
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,2-Dichloroethane	**73**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,2-Dichloropropane	**31**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,3,5-Trimethylbenzene	**NE**	µg/L	**0.70**	**0.79**	0.20 U	0.20 U	0.20 U	0.20 U	**0.11 J**	**39**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
2-Butanone (MEK)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**18 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
2-Chlorotoluene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
2-Hexanone	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Acetone	**NE**	µg/L	**3.2 J**	5.0 U	**2.3 J**	5.0 U	5.0 U	**2.7 J**	3.2 U	25 U	**3.9 J**	5.0 U	5.0 U	5.0 U	**2.8 J**	5.0 U	5.0 U	
Benzene	**1.6**	µg/L	**31**	**7.4**	0.20 U	0.20 U	0.20 U	0.20 U	**3.4**	**29**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.30**	0.20 U	
Bromobenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Bromomethane	**270**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Carbon Disulfide	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	**0.17 J**	0.20 U	0.20 U	0.20 U	0.20 U	
Chlorobenzene	**800**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Chloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Chloroform	**150**	µg/L	0.20 U	0.20 U	0.20 U	**0.12 J**	**0.12 J**	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Chloromethane	**NE**	µg/L	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	**0.33 J**	2.5 U	0.50 U	**0.55**	**0.30 J**	0.50 U	**0.28 J**	0.50 U	**0.36 J**	
cis-1,2-Dichloroethene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.13 J**	0.20 U	
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	0.20 UJ	–	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Ethylbenzene	**31**	µg/L	**2.4**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**17**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Isopropylbenzene (Cumene)	**NE**	µg/L	**8.3**	**7.0**	0.20 U	0.20 U	0.20 U	0.20 U	**0.14 J**	**4.2**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.37**	0.20 U	
Methyl Iodide (Iodomethane)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
Methylene Chloride	**100**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	
n-Butylbenzene	**NE**	µg/L	**0.20**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**12**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
n-Propylbenzene	**NE**	µg/L	**15**	**6.6**	0.20 U	0.20 U	0.20 U	0.20 U	**0.18 J**	**8.1**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
p-Isopropyltoluene	**NE**	µg/L	**0.22**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**3.4**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Sec-Butylbenzene	**NE**	µg/L	**0.34**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**1.6**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Styrene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Tert-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Tetrachloroethene	**2.9**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Toluene	**130**	µg/L	**3.8**	**4.4**	0.20 U	0.20 U	0.20 U	0.20 U	**0.45**	**2.9**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.16 J**	0.20 U	
Trans-1,2-Dichloroethene	**4000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Trichloroethene	**0.70**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Vinyl Chloride	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 UJ	0.20 U	1.0 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
Xylene, m-,p-	**NE**	µg/L	**18**	**23**	0.40 U	0.40 U	0.40 U	0.40 U	**1.1**	**15**	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	**0.77**	0.40 U	
Xylene, o-	**NE**	µg/L	**2.5**	**3.7**	0.20 U	0.20 U	0.20 U	0.20 U	**0.60**	**1.8**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.43**	0.20 U	

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

	Sampling Event:		RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	EIM_FS2154	EIM_FS2154	EIM_FS2154
	Location ID:		MW-14	MW-15	MW-16	MW-17	MW-18	MW-18	MW-19	MW-2R	SEEP-1	SEEP-1	SP-1	2154DOF-SEEP1	2154-MWA	2154-MWA
	Sample ID:		MW-14-140714	MW-15-71514	MW-16-71714	MW-17-71614	MW-18-71614	MW-18-DUP-71614	MW-19-71614	MW-2R-71714	SEEP-1-71414	SEEP-1-DUP-71414	SP-1-71414	ICS-SEEP1-GW-070512	ICS-DMCMWA-GW-112415	ICS-MWA-GW-033016
	Date Sampled:		07/14/14	07/15/14	07/17/14	07/16/14	07/16/14	07/16/14	07/16/14	07/17/14	07/14/14	07/14/14	07/14/14	07/05/12	11/24/15	03/30/16
Parameter	**Screening Level**	**Units**														
Total Petroleum Hydrocarbons (TPH)																
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Gasoline-range hydrocarbons	**800**	µg/L	250 U	250 U	250 U	250 U	250 U	250 U	**980**	**680**	250 U	250 U	250 U	250 U	**350**	**260**
Diesel-range hydrocarbons	**500**	µg/L	100 U	**120**	**360**	**530**	**400**	**540**	**1100**	**570**	**210**	**290**	100 U	100 U	**750**	**760**
Lube Oil-range Hydrocarbons	**500**	µg/L	200 U	200 U	**210**	**450**	**250**	**370**	**320**	**320**	**230**	**420**	200 U	200 U	**1200**	**1100**
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	200 U	**120**	**570**	**980**	**650**	**910**	**1420**	**890**	**440**	**710**	200 U	200 U	**1950**	**1860**
Volatile Organic Compounds (VOCs)																
1,1,1-Trichloroethane	**200000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	**0.90**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,1-Dichloropropene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichlorobenzene	**NE**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	**0.50**	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	**NE**	µg/L	0.20 U	0.20 U	**0.35**	0.20 U	0.20 U	0.20 U	**1.4**	**0.92**	0.20 U	0.20 U	0.20 U	0.2 U	**0.82**	**0.59**
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane	**73**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	**31**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,3,5-Trimethylbenzene	**NE**	µg/L	0.20 U	0.20 U	**0.31**	0.20 U	0.20 U	0.20 U	**0.85**	**0.62**	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	**0.04 J**
2-Butanone (MEK)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U	5 U
2-Chlorotoluene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
2-Hexanone	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5 U	5 U	5 U
Acetone	**NE**	µg/L	5.0 U	5.0 U	**2.3 J**	2.9 U	3.6 U	2.6 U	5.0 U	**4.8 J**	**2.7 J**	5.0 U	5.0 U	5 U	5 U	5 U
Benzene	**1.6**	µg/L	0.20 U	0.20 U	**65**	**0.13 J**	0.20 U	0.20 U	**24**	**18**	0.20 U	0.20 U	0.20 U	0.2 U	**31**	**29**
Bromobenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Bromomethane	**270**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U
Carbon Disulfide	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	**800**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Chloroethane	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Chloroform	**150**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Chloromethane	**NE**	µg/L	0.50 U	0.50 U	0.50 U	**0.22 J**	0.50 U	0.50 U	**0.38 J**	**0.28 J**	0.50 U	0.50 U	**0.33 J**	0.5 U	0.5 U	**0.14 J**
cis-1,2-Dichloroethene	**NE**	µg/L	0.20 U	0.20 U	**0.14 J**	0.20 U	0.20 U	**0.12 J**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	**0.1 J**
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	–	–	–
Ethylbenzene	**31**	µg/L	0.20 U	0.20 U	**0.24**	**0.33**	0.20 U	0.20 U	**2.2**	**0.14 J**	0.20 U	0.20 U	0.20 U	0.2 U	**0.99**	**0.15 J**
Isopropylbenzene (Cumene)	**NE**	µg/L	0.20 U	0.20 U	**0.57**	0.20 U	0.20 U	0.20 U	**8.2**	**6.0**	0.20 U	0.20 U	0.20 U	0.2 U	**2.3**	**1.7**
Methyl Iodide (Iodomethane)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	–	–	–
Methylene Chloride	**100**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U	1 U
n-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	**0.23**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	**0.59**	**0.37 J**
n-Propylbenzene	**NE**	µg/L	0.20 U	0.20 U	**1.5**	0.20 U	0.20 U	0.20 U	**15**	**6.6**	0.20 U	0.20 U	0.20 U	0.2 U	**0.96**	**0.62**
p-Isopropyltoluene	**NE**	µg/L	0.20 U	0.20 U	**0.12 J**	0.20 U	0.20 U	0.20 U	**0.34**	**0.17 J**	0.20 U	0.20 U	0.20 U	0.2 U	**0.6**	**0.22**
Sec-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	**0.10 J**	0.20 U	0.20 U	0.20 U	**0.40**	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	**0.63**	**0.41**
Styrene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Tert-Butylbenzene	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	**0.07 J**
Tetrachloroethene	**2.9**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Toluene	**130**	µg/L	0.20 U	0.20 U	**0.62**	0.20 U	0.20 U	0.20 U	**3.5**	**3.5**	0.20 U	0.20 U	0.20 U	0.2 U	**0.26**	**0.25**
Trans-1,2-Dichloroethene	**4000**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Trichloroethene	**0.70**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	0.2 U	0.2 U
Vinyl Chloride	**10**	µg/L	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.2 U	**0.13 J**	**0.13 J**
Xylene, m-,p-	**NE**	µg/L	0.40 U	0.40 U	**2.7**	0.40 U	0.40 U	0.40 U	**16**	**16**	0.40 U	0.40 U	0.40 U	0.4 U	**0.84**	**0.55**
Xylene, o-	**NE**	µg/L	0.20 U	0.20 U	**0.76**	0.20 U	0.20 U	0.20 U	**2.7**	**2.6**	0.20 U	0.20 U	0.20 U	0.2 U	**0.83**	**0.27**

Table G-4

RI Groundwater Analytical Data - TPH and VOCs Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	EIM_FS2154	EIM_FS2154	EIM_FS2154	EIM_FS2154
			Location ID:	2154-MWB	2154-MWB	2154-MWC	2154-MWC
			Sample ID:	ICS-DMCMWB-GW-112415	ICS-MWB-GW-033016	ICS-DMCMWC-GW-112415	ICS-MWC-GW-033016
			Date Sampled:	11/24/15	03/30/16	11/24/15	03/30/16
Parameter	**Screening Level**	**Units**					
Total Petroleum Hydrocarbons (TPH)							
Total Petroleum Hydrocarbons	**500**	µg/L	–	–	–	–
Gasoline-range hydrocarbons	**800**	µg/L	**380**	**500**	250 U	100 U
Diesel-range hydrocarbons	**500**	µg/L	**460**	**150**	100 U	100 U
Lube Oil-range Hydrocarbons	**500**	µg/L	200 U	200 U	200 U	200 U
Diesel plus Lube Oil-range Hydrocarbons	**500**	µg/L	**460**	**150**	200 U	200 U
Volatile Organic Compounds (VOCs)						
1,1,1-Trichloroethane	**200000**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	**0.90**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloropropene	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichlorobenzene	**NE**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	**0.50**	µg/L	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	**NE**	µg/L	**7.6**	**12**	0.2 U	**0.03 J**
1,2-Dichlorobenzene (o-Dichlorobenzene)	**1200**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane	**73**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	**31**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,3,5-Trimethylbenzene	**NE**	µg/L	**4**	**4.8**	0.2 U	0.2 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	**10**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	**60**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
2-Butanone (MEK)	**NE**	µg/L	5 U	5 U	5 U	5 U
2-Chlorotoluene	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
2-Hexanone	**NE**	µg/L	5 U	5 U	5 U	5 U
4-Methyl-2-Pentanone (Methyl isobutyl ketone)	**NE**	µg/L	5 U	5 U	5 U	5 U
Acetone	**NE**	µg/L	5 U	5 U	5 U	5 U
Benzene	**1.6**	µg/L	**0.27**	**0.33**	0.2 U	0.2 U
Bromobenzene	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Bromomethane	**270**	µg/L	1 U	1 U	1 U	1 U
Carbon Disulfide	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	**800**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Chloroethane	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Chloroform	**150**	µg/L	0.2 U	**0.12 J**	0.2 U	0.2 U
Chloromethane	**NE**	µg/L	0.5 U	**0.33 J**	0.5 U	0.5 U
cis-1,2-Dichloroethene	**NE**	µg/L	**0.15 J**	**0.12 J**	0.2 U	0.2 U
Dichlorodifluoromethane (CFC-12)	**NE**	µg/L	–	–	–	–
Ethylbenzene	**31**	µg/L	**2**	**1.6**	0.2 U	0.2 U
Isopropylbenzene (Cumene)	**NE**	µg/L	**3.2**	**4.1**	0.2 U	0.2 U
Methyl Iodide (Iodomethane)	**NE**	µg/L	–	–	–	–
Methylene Chloride	**100**	µg/L	1 U	1 U	1 U	1 U
n-Butylbenzene	**NE**	µg/L	**0.63**	**0.74 J**	0.2 U	0.2 U
n-Propylbenzene	**NE**	µg/L	**1.8**	**2.2**	0.2 U	0.2 U
p-Isopropyltoluene	**NE**	µg/L	**1.1**	**1.3**	0.2 U	0.2 U
Sec-Butylbenzene	**NE**	µg/L	**0.69**	**0.8**	0.2 U	0.2 U
Styrene	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Tert-Butylbenzene	**NE**	µg/L	**0.06 J**	**0.1 J**	0.2 U	0.2 U
Tetrachloroethene	**2.9**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	**130**	µg/L	**0.28**	**0.58**	0.2 U	0.2 U
Trans-1,2-Dichloroethene	**4000**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethene	**0.70**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane (CFC-11)	**NE**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Vinyl Chloride	**10**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U
Xylene, m-,p-	**NE**	µg/L	**2.7**	**6.1**	0.4 U	0.4 U
Xylene, o-	**NE**	µg/L	**0.12 J**	**1.7**	0.2 U	0.2 U

Notes:

µg/L = micrograms per liter; U = not detected

NE = a screening level was not established for this analyte (see Table 8)

Bold = detected value

Yellow Fill indicates detected result > the groundwater screening level

Blue Fill indicates not detected with reporting limit > the groundwater screening level

Table G-5

RI Groundwater Analytical Data - SVOCs and PAHs Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	DMC*SP-01	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09
			Sample ID:	SP-01-071808	MW-01-071608	MW-03-071608	MW-04-071608	MW-05-071708	MW-08-071708	MW-09-071708	MW-10-071708	MW-11-071708	MW-12-071608	MW-1-08152013	MW-3-08162013	MW-4-08162013	MW-5-08152013	MW-8-08142013	MW-9-08152013
			Date Sampled:	07/18/08	07/16/08	07/16/08	07/16/08	07/17/08	07/17/08	07/17/08	07/17/08	07/17/08	07/16/08	08/15/13	08/16/13	08/16/13	08/15/13	08/14/13	08/15/13
Parameter	**Screening Level**	**Units**																	
Semivolatile Organic Compounds (SVOCs)																			
2,4,5-Trichlorophenol	**600**	µg/L	0.5 U	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	–	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	**53**	µg/L	0.5 U	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	–	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2,4-Dimethylphenol	**97**	µg/L	4 U	3.8 U	4 U	3.9 U	4 U	4 U	4 U	4 U	4 U	3.8 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2-Chloronaphthalene	**280**	µg/L	0.2 U	–	–	–	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-methylphenol (o-Cresol)	**NE**	µg/L	0.5 U	0.48 U	0.5 U	0.49 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.48 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloro-3-Methylphenol	**NE**	µg/L	0.5 U	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	–	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
4-methylphenol (p-Cresol)	**NE**	µg/L	0.5 U	0.48 U	0.5 U	0.49 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.48 U	2.0 U	2.0 U	**3.7 NJ**	2.0 U	2.0 U	2.0 U
Aniline	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzoic Acid	**NE**	µg/L	5 U	4.8 U	5 U	4.9 U	5 U	5 U	5 U	5 U	5 U	4.8 U	20 U	20 U	**12 J**	20 U	20 U	20 U
Benzyl Alcohol	**NE**	µg/L	5 U	4.8 U	5 U	4.9 U	5 U	5 U	5 U	5 U	5 U	4.8 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bis(2-Ethylhexyl) Phthalate	**1.0**	µg/L	1 U	0.95 U	0.99 U	0.98 U	1 U	0.99 U	1 U	0.99 U	1 U	0.95 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Butyl benzyl Phthalate	**1.0**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibutyl Phthalate	**8.0**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Phthalate	**200**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.24 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dimethyl Phthalate	**600**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Di-N-Octyl Phthalate	**NE**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isophorone	**110**	µg/L	0.2 U	–	–	–	**0.3**	0.2 U	0.2 U	0.2 U	0.2 U	–	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitrosodiphenylamine (as diphenylamine)	**1.0**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	**5.0**	µg/L	1 U	0.95 U	0.99 U	0.98 U	1 U	0.99 U	1 U	0.99 U	1 U	0.95 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	**70000**	µg/L	0.5 U	0.48 U	**2.2**	**3**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.48 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Phosphoric Acid Tributyl Ester	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Polycyclic Aromatic Hydrocarbons (PAHs)																			
1-Methylnaphthalene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	**0.013**	**2.7**	**42**	0.010 U	**0.019**	**0.064**
2-Methylnaphthalene	**NE**	µg/L	0.2 U	0.19 U	**0.26**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.3**	**0.017**	**0.53**	**83**	0.010 U	**0.022**	**0.10**
Acenaphthene	**30**	µg/L	**0.35**	0.19 U	**5.7**	0.2 U	0.2 U	0.2 U	**0.28**	**0.68**	0.2 U	0.19 U	**0.14**	**8.1**	**0.28**	**0.022**	**0.032**	**0.045**
Acenaphthylene	**NE**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Anthracene	**100**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Benzo(g,h,i)perylene	**NE**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Dibenzofuran	**NE**	µg/L	0.2 U	0.19 U	**1.2**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.010 U	**1.4**	0.10 U	0.010 U	0.010 U	0.010 U
Fluoranthene	**1.8**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.010 U	0.10 U	**0.15**	0.010 U	0.010 U	**0.012**
Fluorene	**10**	µg/L	0.2 U	0.19 U	**1.8**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	**0.018**	**2.3**	**0.21**	0.010 U	**0.016**	**0.011**
Naphthalene	**1.4**	µg/L	0.2 U	0.19 U	**13**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	**0.046**	**3.0**	**200**	**0.015**	**0.021**	**0.26**
Phenanthrene	**NE**	µg/L	0.2 U	0.19 U	**2**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.010 U	**1.2**	**0.28**	**0.013**	**0.040**	**0.022**
Pyrene	**8.0**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.010 U	0.10 U	**0.12**	**0.011**	**0.011**	**0.011**
Benzo(a)pyrene	**0.010**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Benzo(a)anthracene	**0.010**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Benzo(b)fluoranthene	**0.010**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	–	–	–	–	–	–
Benzo(k)fluoranthene	**0.010**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	–	–	–	–	–	–
Benzofluoranthenes (Total)	**0.020**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	0.020 U	0.20 U	0.20 U	0.020 U	0.020 U	0.020 U
Chrysene	**0.016**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Dibenzo(a,h)anthracene	**0.010**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Indeno(1,2,3-c,d)pyrene	**0.010**	µg/L	–	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	–	0.2 U	0.19 U	0.010 U	0.10 U	0.10 U	0.010 U	0.010 U	0.010 U
Total cPAH TEQ (ND=0.5RL)	**0.010**	µg/L	–	0.1340 U	0.141 U	0.141 U	0.141 U	0.141 U	0.141 U	–	0.141 U	0.1340 U	0.00755 U	0.0755 U	0.0755 U	0.00755 U	0.00755 U	0.00755 U

Table G-5

RI Groundwater Analytical Data - SVOCs and PAHs Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-17	MW-18	MW-19	MW-2R	SEEP-1	SP-1	SP-1	DP-10
			Sample ID:	MW-10-08152013	MW-11-08152013	MW-12-08152013	MW-13-08142013	MW-14-08192013	MW-15-08152013	MW-16-08192013	MW-17-08192013	MW-DUP-08192013	MW-18-08202013	MW-19-08202013	MW-2R-08202013	GEI-SEEP-1-090313	GEI-SP-1	DUP-L-090403	DP-10
			Date Sampled:	08/16/13	08/15/13	08/16/13	08/14/13	08/19/13	08/15/13	08/19/13	08/19/13	08/19/13	08/20/13	08/20/13	08/20/13	09/03/13	09/04/13	09/04/13	07/08/13
Parameter	**Screening Level**	**Units**																	
Semivolatile Organic Compounds (SVOCs)																			
2,4,5-Trichlorophenol	**600**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	**53**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2,4-Dimethylphenol	**97**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2-Chloronaphthalene	**280**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-methylphenol (o-Cresol)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloro-3-Methylphenol	**NE**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
4-methylphenol (p-Cresol)	**NE**	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**1.1 J**	**0.6 J**	**0.7 J**	**0.8 J**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Aniline	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzoic Acid	**NE**	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 UJ	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Benzyl Alcohol	**NE**	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bis(2-Ethylhexyl) Phthalate	**1.0**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	**0.9 J**	**0.6 J**	3.0 UJ	3.0 U	3.0 U	**0.9 J**	**1.0 J**	3.0 U	3.0 U	3.0 U	3.0 U
Butyl benzyl Phthalate	**1.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 U	**19**	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibutyl Phthalate	**8.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Phthalate	**200**	µg/L	1.0 U	1.0 U	**0.6 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dimethyl Phthalate	**600**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Di-N-Octyl Phthalate	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isophorone	**110**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitrosodiphenylamine (as diphenylamine)	**1.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	**5.0**	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	**70000**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.7 J**	1.0 U	1.0 UJ	1.0 U	1.0 U	**1.3**	1.0 U	1.0 U	1.0 U	1.0 U	**1.7**
Phosphoric Acid Tributyl Ester	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	**6.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	–
Polycyclic Aromatic Hydrocarbons (PAHs)																			
1-Methylnaphthalene	**NE**	µg/L	**0.045**	**0.017**	**0.11**	**0.13**	**0.011**	**0.011**	**0.095**	**0.077**	**0.090**	**0.24**	**29**	**1.5**	0.010 U	**0.096**	**0.086**	**20**
2-Methylnaphthalene	**NE**	µg/L	**0.011**	**0.034**	0.010 U	**0.14**	**0.012**	**0.014**	**0.054**	**0.069**	**0.080**	**0.10**	**28**	**0.86**	0.010 U	0.010 U	0.010 U	**31**
Acenaphthene	**30**	µg/L	**4.6**	0.010 U	**0.49**	**0.081**	**0.012**	**0.016**	**0.12**	**0.022**	**0.023**	**0.66**	**44**	**8.4**	**0.010**	**0.94 J**	**0.97 J**	**0.19**
Acenaphthylene	**NE**	µg/L	0.010 U	0.010 U	0.010 U	**0.034**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.095**	**0.027**	0.010 U	**0.015**	**0.015**	0.010 U
Anthracene	**100**	µg/L	**0.020**	0.010 U	0.010 U	**0.038**	0.010 U	0.010 U	**0.036**	0.010 U	0.010 U	**0.013**	**0.25**	**0.18**	0.010 U	**0.057 J**	**0.052 J**	**0.027**
Benzo(g,h,i)perylene	**NE**	µg/L	0.010 U	0.010 U	0.010 U	**0.012**	0.010 U	0.010 U	**0.0066 J**	0.010 U	0.010 U	0.010 U	**0.0063 J**	**0.016**	**0.034**	0.010 U	0.010 U	0.010 U
Dibenzofuran	**NE**	µg/L	**0.048**	0.010 U	0.010 U	**0.014**	0.010 U	0.010 U	**0.013**	**0.0064 J**	**0.0068 J**	**0.014**	**18**	**0.76**	0.010 UJ	0.19 UJ	0.18 UJ	**0.048**
Fluoranthene	**1.8**	µg/L	**0.044**	0.010 U	**0.012**	**0.11**	0.010 U	**0.017**	**0.088**	**0.014**	**0.016**	**0.035**	**0.043**	**0.67**	**0.056**	**0.50 J**	**0.46 J**	**0.056**
Fluorene	**10**	µg/L	**0.087**	0.010 U	**0.040**	**0.087**	**0.0053 J**	**0.011**	**0.099**	**0.015**	**0.017**	**0.11**	**18**	**2.2**	0.010 U	**0.19 J**	**0.17 J**	**0.11**
Naphthalene	**1.4**	µg/L	**0.024**	**0.096**	**0.023**	**0.16**	**0.019**	**0.015**	**0.054**	**0.048 J**	**0.061**	**0.074**	**3.3**	**2.4**	**0.018**	**0.17**	**0.15**	**57**
Phenanthrene	**NE**	µg/L	**0.037**	0.010 U	**0.040**	**0.22**	**0.0081 J**	**0.029**	**0.15**	**0.027**	**0.032**	**0.098**	**9.2**	**2.4**	**0.019**	**0.16**	**0.15**	**0.15**
Pyrene	**8.0**	µg/L	**0.029**	0.010 U	**0.013**	**0.14**	**0.0076 J**	**0.024**	**0.091**	**0.020**	**0.023**	**0.034**	**0.033**	**0.56**	**0.074**	**0.36**	**0.31**	**0.065**
Benzo(a)pyrene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	**0.021**	0.010 U	0.010 U	**0.0082 J**	0.010 U	0.010 U	0.010 U	**0.0056 J**	**0.026**	**0.018**	0.010 UJ	0.010 UJ	0.010 U
Benzo(a)anthracene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	**0.029**	0.010 U	0.010 U	**0.014**	0.010 U	0.010 U	0.010 U	**0.0080 J**	**0.084**	**0.021**	**0.022 J**	**0.018 J**	**0.011**
Benzo(b)fluoranthene	**0.010**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.010 U
Benzo(k)fluoranthene	**0.010**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.010 U
Benzofluoranthenes (Total)	**0.020**	µg/L	0.020 U	0.020 U	0.020 U	**0.035**	0.020 U	0.020 U	**0.0073 J**	0.020 U	0.020 U	0.020 U	**0.016 J**	**0.052**	**0.049**	0.020 UJ	0.020 UJ	0.020 U
Chrysene	**0.016**	µg/L	0.010 U	0.010 U	0.010 U	**0.044**	0.010 U	0.010 U	**0.017**	**0.0064 J**	**0.0077 J**	**0.0052 J**	**0.0086 J**	**0.083**	**0.032**	**0.033 J**	**0.021 J**	**0.011**
Dibenzo(a,h)anthracene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Indeno(1,2,3-c,d)pyrene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.011**	**0.017 J**	0.010 UJ	0.010 UJ	0.010 U
Total cPAH TEQ (ND=0.5RL)	**0.010**	µg/L	0.00755 U	0.00755 U	0.00755 U	**0.02884**	0.00755 U	0.00755 U	**0.0115 JT**	**0.00756 JT**	**0.00758 JT**	**0.00755 JT**	**0.00909 JT**	**0.04203**	**0.02752 JT**	**0.00953 JT**	**0.00901 JT**	**0.00821**

Table G-5

RI Groundwater Analytical Data - SVOCs and PAHs Results

7100 1st Avenue South Site

Seattle, Washington

Parameter	Screening Level	Units	Sampling Event:	RI/FS_RND_1	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2
			Location ID:	DP-11	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18
			Sample ID:	DP-11	MW-1-20131216	MW-3-131216	MW-4-20131216	MW-5-20131226	MW-8-20131219	MW-9-131216	MW-10-20131216	MW-11-20131226	MW-12-131216	MW-13-20131217	MW-14-20131217	MW-15-20131226	MW-16-20131216	MW-17-20131220	MW-18-20131219
			Date Sampled:	07/08/13	12/16/13	12/16/13	12/16/13	12/26/13	12/19/13	12/16/13	12/16/13	12/26/13	12/16/13	12/17/13	12/17/13	12/26/13	12/16/13	12/20/13	12/19/13
Semivolatile Organic Compounds (SVOCs)																			
2,4,5-Trichlorophenol	**600**	µg/L		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	**53**	µg/L		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2,4-Dimethylphenol	**97**	µg/L		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2-Chloronaphthalene	**280**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-methylphenol (o-Cresol)	**NE**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloro-3-Methylphenol	**NE**	µg/L		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
4-methylphenol (p-Cresol)	**NE**	µg/L		2.0 U	2.0 U	2.0 U	**3.2**	2.0 U	2.0 U	**0.6 J**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Aniline	**NE**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzoic Acid	**NE**	µg/L		20 U	20 UJ	20 UJ	20 UJ	20 U	20 U	20 UJ	20 UJ	20 U	20 UJ	20 UJ	20 UJ	20 U	20 UJ	20 U	20 U
Benzyl Alcohol	**NE**	µg/L		2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 U	2.0 U	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 U	2.0 UJ	2.0 UJ
Bis(2-Ethylhexyl) Phthalate	**1.0**	µg/L		3.0 U	3.0 U	3.0 U	**0.8 J**	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Butyl benzyl Phthalate	**1.0**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole	**NE**	µg/L		1.0 U	1.0 U	**0.7 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibutyl Phthalate	**8.0**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Phthalate	**200**	µg/L		**1.4**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dimethyl Phthalate	**600**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Di-N-Octyl Phthalate	**NE**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isophorone	**110**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitrosodiphenylamine (as diphenylamine)	**1.0**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	**5.0**	µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	**70000**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	**1.0**	1.0 U	1.0 U
Phosphoric Acid Tributyl Ester	**NE**	µg/L		–	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**7.4 J**
Polycyclic Aromatic Hydrocarbons (PAHs)																			
1-Methylnaphthalene	**NE**	µg/L		**2.2**	**0.017**	**4.5**	**19**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.10**	**0.016**	**0.013**	0.010 U	**0.16**	**0.068**	**0.11**
2-Methylnaphthalene	**NE**	µg/L		**0.99**	**0.017**	**1.8**	**17**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.018**	**0.015**	0.010 U	**0.034**	**0.060**	**0.039**
Acenaphthene	**30**	µg/L		**0.49**	**0.10**	**11**	**0.23**	**0.018**	0.010 U	0.010 U	**1.4**	0.010 U	**0.69**	**0.026**	**0.020**	**0.020**	**0.11**	**0.020**	**1.6**
Acenaphthylene	**NE**	µg/L		**0.013**	0.010 U	**0.035**	**0.020**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Anthracene	**100**	µg/L		**0.014**	0.010 U	**0.080**	**0.073**	0.010 U	0.010 U	0.010 U	**0.011**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(g,h,i)perylene	**NE**	µg/L		0.010 U	0.010 U	0.010 U	**0.022**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzofuran	**NE**	µg/L		**0.033**	0.010 U	**2.6**	**0.046**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.012**
Fluoranthene	**1.8**	µg/L		**0.012**	0.010 U	**0.11**	**0.27**	0.010 U	**0.021**	0.010 U	**0.068**	0.010 U	0.010 U	**0.024**	0.010 U	0.010 U	**0.016**	0.010 U	**0.020**
Fluorene	**10**	µg/L		**0.13**	**0.015**	**3.6**	**0.18**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.028**	0.010 U	0.010 U	0.010 U	**0.031**	**0.012**	**0.22**
Naphthalene	**1.4**	µg/L		**0.43**	**0.018**	**0.98**	**47**	0.010 U	**0.014**	**0.012**	**0.053**	**0.046**	**0.012**	**0.014**	**0.016**	0.010 U	**0.16**	**0.069**	**0.026**
Phenanthrene	**NE**	µg/L		**0.072**	**0.013**	**2.0**	**0.11**	0.010 U	**0.016**	0.010 U	0.010 U	0.010 U	**0.020**	**0.019**	0.010 U	0.010 U	**0.032**	**0.016**	**0.060**
Pyrene	**8.0**	µg/L		**0.011**	0.010 UJ	**0.052 J**	**0.27 J**	0.010 UJ	**0.012 J**	0.010 UJ	**0.032 J**	0.010 UJ	0.010 UJ	**0.023 J**	0.010 UJ	0.010 UJ	**0.012 J**	0.010 UJ	**0.013 J**
Benzo(a)pyrene	**0.010**	µg/L		0.010 U	0.010 U	0.010 U	**0.032**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(a)anthracene	**0.010**	µg/L		0.010 U	0.010 U	0.010 U	**0.068**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(b)fluoranthene	**0.010**	µg/L		0.010 U	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzo(k)fluoranthene	**0.010**	µg/L		0.010 U	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzofluoranthenes (Total)	**0.020**	µg/L		0.020 U	0.020 U	0.020 U	**0.052**	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Chrysene	**0.016**	µg/L		0.010 U	0.010 U	0.010 U	**0.049**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzo(a,h)anthracene	**0.010**	µg/L		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Indeno(1,2,3-c,d)pyrene	**0.010**	µg/L		0.010 U	0.010 U	0.010 U	**0.013**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Total cPAH TEQ (ND=0.5RL)	**0.010**	µg/L		0.00755 U	0.00755 U	0.00755 U	**0.04629**	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U

Table G-5

RI Groundwater Analytical Data - SVOCs and PAHs Results

7100 1st Avenue South Site

Seattle, Washington

Parameter	Screening Level	Units	Sampling Event:	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3
			Location ID:	MW-18	MW-19	MW-2R	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16
			Sample ID:	MW-DUP-20131219	MW-19-131216	MW-2R-20131220	MW-1-031914	MW-3-031914	MW-4-031714	MW-5-031714	MW-8-031914	MW-9-031914	MW-10-031914	MW-11-031914	MW-12-031914	MW-13-032014	MW-14-031814	MW-15-032014	MW-16-031714
			Date Sampled:	12/19/13	12/16/13	12/20/13	03/19/14	03/19/14	03/17/14	03/17/14	03/19/14	03/19/14	03/19/14	03/19/14	03/19/14	03/20/14	03/18/14	03/20/14	03/17/14
Semivolatile Organic Compounds (SVOCs)																			
2,4,5-Trichlorophenol	**600**	µg/L		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	**53**	µg/L		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2,4-Dimethylphenol	**97**	µg/L		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
2-Chloronaphthalene	**280**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-methylphenol (o-Cresol)	**NE**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloro-3-Methylphenol	**NE**	µg/L		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
4-methylphenol (p-Cresol)	**NE**	µg/L		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**11**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Aniline	**NE**	µg/L		**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzoic Acid	**NE**	µg/L		20 U	20 UJ	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Benzyl Alcohol	**NE**	µg/L		2.0 UJ	2.0 U	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Bis(2-Ethylhexyl) Phthalate	**1.0**	µg/L		3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	**1.6 J**	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Butyl benzyl Phthalate	**1.0**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole	**NE**	µg/L		1.0 U	**13**	**1.2**	1.0 U	**0.7 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**6.1**
Dibutyl Phthalate	**8.0**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Phthalate	**200**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dimethyl Phthalate	**600**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Di-N-Octyl Phthalate	**NE**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isophorone	**110**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitrosodiphenylamine (as diphenylamine)	**1.0**	µg/L		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	**5.0**	µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	**70000**	µg/L		1.0 U	1.0 U	**0.5 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Phosphoric Acid Tributyl Ester	**NE**	µg/L		**4.9 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Polycyclic Aromatic Hydrocarbons (PAHs)																			
1-Methylnaphthalene	**NE**	µg/L		**0.091**	**18**	**1.0**	0.010 U	**4.8**	**32**	**0.014**	0.010 U	0.010 U	**0.33**	0.010 U	**0.20**	0.010 U	0.010 U	0.010 U	**19**
2-Methylnaphthalene	**NE**	µg/L		**0.031**	**16**	**0.30**	0.010 U	**1.8**	**52**	**0.018**	0.010 U	0.010 U	**0.025**	0.010 U	0.010 U	0.010 U	**0.011**	0.010 U	**11**
Acenaphthene	**30**	µg/L		**1.5**	**27**	**7.5**	**0.54**	**13**	**0.23**	**0.028**	**0.020**	**0.045**	**7.0**	0.010 U	**2.1**	0.010 U	**0.034**	**0.050**	**24**
Acenaphthylene	**NE**	µg/L		0.010 U	**0.057**	**0.025**	0.010 U	**0.053**	0.010 U	0.010 U	0.010 U	0.010 U	**0.020**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.19**
Anthracene	**100**	µg/L		0.010 U	**0.12**	**0.092**	0.010 U	**0.098**	**0.070**	0.010 U	0.010 U	0.010 U	**0.020**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.33**
Benzo(g,h,i)perylene	**NE**	µg/L		0.010 U	0.010 U	**0.028**	0.010 U	0.010 U	**0.018**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzofuran	**NE**	µg/L		0.010 U	**11**	**0.47**	0.010 U	**3.1**	**0.054**	0.010 U	0.010 U	0.010 U	**0.17**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**4.6**
Fluoranthene	**1.8**	µg/L		**0.016**	**0.034**	**0.48**	0.010 U	**0.11**	**0.22**	0.010 U	0.010 U	**0.012**	**0.060**	0.010 U	0.010 U	0.010 U	0.010 U	**0.014**	**0.31**
Fluorene	**10**	µg/L		**0.21**	**11**	**1.7**	**0.065**	**4.2**	**0.19**	**0.010**	0.010 U	0.010 U	**0.66**	0.010 U	**0.046**	0.010 U	0.010 U	0.010 U	**11**
Naphthalene	**1.4**	µg/L		**0.023**	**0.53**	**0.69**	**0.013**	**0.65**	**95**	**0.043**	0.010 U	**0.014**	**0.14**	0.010 U	**0.014**	0.010 U	0.010 U	0.010 U	**42**
Phenanthrene	**NE**	µg/L		**0.056**	**5.6**	**0.89**	0.010 U	**2.5**	**0.26**	**0.011**	0.010 U	0.010 U	**0.15**	0.010 U	**0.026**	0.010 U	0.010 U	**0.011**	**9.3**
Pyrene	**8.0**	µg/L		**0.010 J**	**0.018 J**	**0.38 J**	0.010 U	**0.065**	**0.22**	0.010 U	0.010 U	**0.012**	**0.027**	0.010 U	0.010 U	0.010 U	0.010 U	**0.011**	**0.14**
Benzo(a)pyrene	**0.010**	µg/L		0.010 U	0.010 U	**0.022**	0.010 U	0.010 U	**0.032**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(a)anthracene	**0.010**	µg/L		0.010 U	0.010 U	**0.050**	0.010 U	0.010 U	**0.060**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(b)fluoranthene	**0.010**	µg/L		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzo(k)fluoranthene	**0.010**	µg/L		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzofluoranthenes (Total)	**0.020**	µg/L		0.020 U	0.020 U	**0.042**	0.020 U	0.020 U	**0.059**	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Chrysene	**0.016**	µg/L		0.010 U	0.010 U	**0.052**	0.010 U	0.010 U	**0.042**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzo(a,h)anthracene	**0.010**	µg/L		0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.010 U**	0.010 U	0.010 U	0.010 U
Indeno(1,2,3-c,d)pyrene	**0.010**	µg/L		0.010 U	0.010 U	**0.016**	0.010 U	0.010 U	**0.011**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Total cPAH TEQ (ND=0.5RL)	**0.010**	µg/L		**0.00755 UT**	0.00755 U	**0.03382**	0.00755 U	0.00755 U	**0.04592**	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	**0.00755 U**	0.00755 U	0.00755 U	0.00755 U

Table G-5

RI Groundwater Analytical Data - SVOCs and PAHs Results

7100 1st Avenue South Site

Seattle, Washington

	Sampling Event:		RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4
	Location ID:		MW-17	MW-18	MW-19	MW-19	MW-2R	SEEP-1	SP-1	SP-1	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11
	Sample ID:		MW-17-031714	MW-18-031814	DUP-GW-031714	MW-19-031714	MW-2R-031814	GEI-SEEP-1-032014	GEI-SP1-032014	DUP-SP-1-032014	MW-1-71514	MW-3-71614	MW-4-71614	MW-5-71714	MW-8-140714	MW-9-140714	MW-10-71514	MW-11-71414
	Date Sampled:		03/17/14	03/18/14	03/17/14	03/17/14	03/18/14	03/20/14	03/20/14	03/20/14	07/15/14	07/16/14	07/16/14	07/17/14	07/14/14	07/14/14	07/15/14	07/14/14
Parameter	**Screening Level**	**Units**																
Semivolatile Organic Compounds (SVOCs)																		
2,4,5-Trichlorophenol	**600**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	**53**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U
2,4-Dimethylphenol	**97**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U
2-Chloronaphthalene	**280**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
2-methylphenol (o-Cresol)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
4-Chloro-3-Methylphenol	**NE**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U
4-methylphenol (p-Cresol)	**NE**	µg/L	2.0 U	2.0 U	**6.0**	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	**1.4 J**	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U
Aniline	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Benzoic Acid	**NE**	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 UJ	20 UJ	20 UJ	20 U	20 U	20 U	20 U
Benzyl Alcohol	**NE**	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 UJ	2.0 U	2.0 U	2.0 U	2.0 U
Bis(2-Ethylhexyl) Phthalate	**1.0**	µg/L	**1.8 J**	3.0 U	**0.7 J**	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	**0.8 J**	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U
Butyl benzyl Phthalate	**1.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Carbazole	**NE**	µg/L	1.0 U	1.0 U	1.0 U	**10**	**1.1**	1.0 U	1.0 U	1.0 U	1.0 U	**1.0 J**	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Dibutyl Phthalate	**8.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Phthalate	**200**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Dimethyl Phthalate	**600**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Di-N-Octyl Phthalate	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Isophorone	**110**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
N-Nitrosodiphenylamine (as diphenylamine)	**1.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	**5.0**	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Phenol	**70000**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Phosphoric Acid Tributyl Ester	**NE**	µg/L	1.0 U	**3.4**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	–	–	–	–	–	–	–	–
Polycyclic Aromatic Hydrocarbons (PAHs)																		
1-Methylnaphthalene	**NE**	µg/L	**0.075**	**0.10**	**24**	**22**	**1.6**	0.010 U	0.010 U	**0.011**	0.010 U	**4.8**	**28**	0.010 U	0.010 U	0.010 U	**0.046**	0.010 U
2-Methylnaphthalene	**NE**	µg/L	**0.068**	**0.028**	**37**	**20**	**0.044**	0.010 U	0.010 U	0.010 U	0.010 U	**1.7**	**39**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Acenaphthene	**30**	µg/L	**0.021**	**1.4**	**0.20**	**31**	**8.4**	0.010 U	**0.030 J**	**0.15 J**	**0.32**	**15**	**0.20**	**0.019**	0.010 U	**0.16**	**3.3**	0.010 U
Acenaphthylene	**NE**	µg/L	0.010 U	0.010 U	0.010 U	**0.078**	**0.028**	0.010 U	0.010 U	0.010 U	0.010 U	**0.044**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Anthracene	**100**	µg/L	**0.010**	0.010 U	**0.054**	**0.14**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.11**	**0.048**	0.010 U	0.010 U	0.010 U	**0.013**	0.010 U
Benzo(g,h,i)perylene	**NE**	µg/L	0.010 U	0.010 U	**0.013**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.010**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzofuran	**NE**	µg/L	0.010 U	**0.011**	**0.050**	**12**	**0.19**	0.010 U	**0.010 J**	**0.024 J**	0.010 U	**3.3**	**0.042**	0.010 U	0.010 U	0.010 U	**0.017**	0.010 U
Fluoranthene	**1.8**	µg/L	**0.032**	**0.011**	**0.17**	**0.027**	**0.025**	**0.028**	**0.037**	**0.033**	0.010 U	**0.13**	**0.14**	0.010 U	0.010 U	0.010 U	**0.062**	0.010 U
Fluorene	**10**	µg/L	**0.023**	**0.21**	**0.16**	**12**	**1.2**	0.010 U	0.010 U	0.010 U	**0.036**	**4.7**	**0.16**	0.010 U	0.010 U	0.010 U	**0.031**	0.010 U
Naphthalene	**1.4**	µg/L	**0.090**	**0.013**	**69**	**1.7**	**0.10**	**0.010**	**0.022 J**	**0.069 J**	0.010 U	**0.76**	**66**	**0.014**	**0.014**	**0.014**	**0.096**	**0.023**
Phenanthrene	**NE**	µg/L	**0.058**	**0.047**	**0.20**	**6.4**	**0.14**	0.010 U	**0.012**	0.010 U	0.010 U	**3.0**	**0.14**	0.010 U	0.010 U	0.010 U	**0.012**	0.010 U
Pyrene	**8.0**	µg/L	**0.045**	**0.010**	**0.16**	**0.013**	**0.018**	**0.032**	**0.041 J**	**0.028 J**	0.010 U	**0.072**	**0.12**	0.010 U	0.010 U	0.010 U	**0.035**	0.010 U
Benzo(a)pyrene	**0.010**	µg/L	**0.010**	0.010 U	**0.023**	0.010 U	0.010 U	0.010 U	**0.011**	0.010 U	0.010 U	0.010 U	**0.016**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(a)anthracene	**0.010**	µg/L	**0.014**	0.010 U	**0.043**	0.010 U	0.010 U	0.010 U	**0.020**	0.010 U	0.010 U	0.010 U	**0.028**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(b)fluoranthene	**0.010**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzo(k)fluoranthene	**0.010**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzofluoranthenes (Total)	**0.020**	µg/L	0.020 U	0.020 U	**0.042**	0.020 U	0.020 U	0.020 U	**0.036**	0.020 U	0.020 U	0.020 U	**0.028**	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Chrysene	**0.016**	µg/L	**0.022**	0.010 U	**0.030**	0.010 U	0.010 U	0.010 U	**0.072 J**	**0.013 J**	0.010 U	0.010 U	**0.019**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Dibenzo(a,h)anthracene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Indeno(1,2,3-c,d)pyrene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Total cPAH TEQ (ND=0.5RL)	**0.010**	µg/L	**0.01362**	0.00755 U	**0.0328 T**	0.00755 U	0.00755 U	0.00755 U	**0.01832 JT**	**0.00763 JT**	0.00755 U	0.00755 U	**0.02279**	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U

Table G-5

RI Groundwater Analytical Data - SVOCs and PAHs Results

7100 1st Avenue South Site

Seattle, Washington

	Sampling Event:		RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	EIM_FS2154	EIM_FS2154	EIM_FS2154
	Location ID:		DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-18	MW-19	MW-2R	SEEP-1	SEEP-1	SP-1	EAA2-SEEP-1	2154DOF-SEEP1	2154-MWA
	Sample ID:		MW-12-71514	MW-13-140714	MW-14-140714	MW-15-71514	MW-16-71714	MW-17-71614	MW-18-71614	MW-18-DUP-71614	MW-19-71614	MW-2R-71714	SEEP-1-71414	SEEP-1-DUP-71414	SP-1-71414	SEEP-1	S-SEEP1-GW-0705	DMCMWA-GW-112
	Date Sampled:		07/15/14	07/14/14	07/14/14	07/15/14	07/17/14	07/16/14	07/16/14	07/16/14	07/16/14	07/17/14	07/14/14	07/14/14	07/14/14	05/04/07	07/05/12	11/24/15
Parameter	**Screening Level**	**Units**																
Semivolatile Organic Compounds (SVOCs)																		
2,4,5-Trichlorophenol	**600**	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	–	5 U	5 U
2,4-Dichlorophenol	**53**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	–	5 U	3 U
2,4-Dimethylphenol	**97**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	**0.8 J**	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	2.3 U	1 U	3 U
2-Chloronaphthalene	**280**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	–	1 U	1 U
2-methylphenol (o-Cresol)	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	0.56 U	1 U	1 U
4-Chloro-3-Methylphenol	**NE**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	–	5 U	3 U
4-methylphenol (p-Cresol)	**NE**	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 U	2.0 U	2.0 U	0.56 U	1 U	2 U
Aniline	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	–	–	–
Benzoic Acid	**NE**	µg/L	20 U	20 U	20 U	20 U	20 UJ	20 UJ	20 UJ	20 UJ	**3.7 J**	20 UJ	20 U	20 U	20 U	5.6 U	10 U	20 U
Benzyl Alcohol	**NE**	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 UJ	2.0 U	2.0 U	2.0 U	5.6 U	5 U	2 U
Bis(2-Ethylhexyl) Phthalate	**1.0**	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	**1.3 J**	3.0 UJ	**2.1 J**	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	1.2 U	1 U	**4**
Butyl benzyl Phthalate	**1.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	0.23 U	1 U	1 U
Carbazole	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	**1.9 J**	1.0 UJ	1.0 UJ	1.0 UJ	**13 J**	**1.2 J**	1.0 U	1.0 U	1.0 U	–	1 U	**1**
Dibutyl Phthalate	**8.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	**0.11 J**	1 U	1 U
Diethyl Phthalate	**200**	µg/L	1.0 U	1.0 U	0.7 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	**0.04 J**	1 U	1 U
Dimethyl Phthalate	**600**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	0.23 U	1 U	1 U
Di-N-Octyl Phthalate	**NE**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	0.23 U	1 U	1 U
Isophorone	**110**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	–	1 U	1 U
N-Nitrosodiphenylamine (as diphenylamine)	**1.0**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	0.23 U	1 U	**1.2**
Pentachlorophenol	**5.0**	µg/L	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	**0.06 J**	0.25 U	0.25 U
Phenol	**70000**	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 U	1.0 U	1.0 U	0.56 U	1 U	**1.6**
Phosphoric Acid Tributyl Ester	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Polycyclic Aromatic Hydrocarbons (PAHs)																		
1-Methylnaphthalene	**NE**	µg/L	**0.20**	0.010 U	**0.90**	0.010 U	**4.8**	**0.078**	**0.058**	**0.056**	**29**	**1.6**	0.010 U	0.010 U	**0.010**	–	–	–
2-Methylnaphthalene	**NE**	µg/L	**0.020**	**0.011**	**1.3**	**0.011**	**2.9**	**0.065**	**0.017**	**0.013**	**26**	**0.19**	0.010 U	0.010 U	0.010 U	0.23 U	–	–
Acenaphthene	**30**	µg/L	**1.2**	0.010 U	**0.15**	**0.036**	**7.4**	**0.030**	**0.60**	**0.63**	**42**	**8.0**	0.010 U	0.010 U	**0.24**	0.23 U	0.1 U	**3.9**
Acenaphthylene	**NE**	µg/L	0.010 U	0.010 U	**0.041**	0.010 U	**0.048**	0.010 U	0.010 U	0.010 U	**0.10**	**0.016**	0.010 U	0.010 U	0.010 U	0.23 U	0.1 U	**0.23**
Anthracene	**100**	µg/L	0.010 U	0.010 U	**0.053**	0.010 U	**0.16**	0.010 U	0.010 U	0.010 U	**0.22**	**0.013**	0.010 U	0.010 U	0.010 U	0.23 U	0.1 U	**0.59**
Benzo(g,h,i)perylene	**NE**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.23 U	0.1 U	0.1 U
Dibenzofuran	**NE**	µg/L	0.010 U	0.010 U	**0.049**	0.010 U	**1.5**	**0.010**	0.010 U	0.010 U	**17**	**0.21**	0.010 U	0.010 U	**0.026**	0.23 U	–	**0.49**
Fluoranthene	**1.8**	µg/L	0.010 U	0.010 U	**0.040**	0.010 U	**0.18**	**0.012**	**0.013**	**0.013**	**0.038**	**0.037**	0.010 U	0.010 U	**0.019**	**0.04 J**	0.1 U	**0.33**
Fluorene	**10**	µg/L	**0.024**	0.010 U	**0.39**	0.010 U	**3.8**	**0.020**	**0.092**	**0.093**	**17**	**1.2**	0.010 U	0.010 U	**0.020**	0.23 U	0.1 U	**1.4**
Naphthalene	**1.4**	µg/L	**0.012**	**0.010**	**0.057**	**0.011**	**8.3**	**0.066**	**0.013**	**0.016**	**12**	**0.55**	**0.013**	**0.016**	**0.027**	–	0.1 U	**9**
Phenanthrene	**NE**	µg/L	**0.024**	**0.016**	**0.47**	0.010 U	**4.2**	**0.026**	**0.021**	**0.019**	**9.1**	**0.30**	0.010 U	0.010 U	**0.012**	0.23 U	0.1 U	**1.9**
Pyrene	**8.0**	µg/L	0.010 U	0.010 U	**0.046**	0.010 U	**0.072**	**0.014**	**0.011**	**0.011**	**0.014**	**0.023**	0.010 U	0.010 U	**0.012**	**0.04 J**	0.1 U	**0.38**
Benzo(a)pyrene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	–	0.1 U	**0.07 J**
Benzo(a)anthracene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	–	0.1 U	**0.08 J**
Benzo(b)fluoranthene	**0.010**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzo(k)fluoranthene	**0.010**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Benzofluoranthenes (Total)	**0.020**	µg/L	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	–	0.2 U	**0.04 J**
Chrysene	**0.016**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	–	0.1 U	**0.1 J**
Dibenzo(a,h)anthracene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	–	0.1 U	0.1 U
Indeno(1,2,3-c,d)pyrene	**0.010**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	–	0.1 U	0.1 U
Total cPAH TEQ (ND=0.5RL)	**0.010**	µg/L	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 U	0.00755 UT	0.00755 U	0.00755 U	0.00755 U	0.00755 UT	0.00755 U	–	0.0755 U	**0.093**

Table G-5

RI Groundwater Analytical Data - SVOCs and PAHs Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	EIM_FS2154	EIM_FS2154	EIM_FS2154	EIM_FS2154	EIM_FS2154
			Location ID:	2154-MWA	2154-MWB	2154-MWB	2154-MWC	2154-MWC
			Sample ID:	S-MWA-GW-033016	DMCMWB-GW-112	S-MWB-GW-033016	DMCMWC-GW-112	S-MWC-GW-033016
			Date Sampled:	03/30/16	11/24/15	03/30/16	11/24/15	03/30/16
Parameter	**Screening Level**	**Units**						
Semivolatile Organic Compounds (SVOCs)								
2,4,5-Trichlorophenol	**600**	µg/L	1 U	5 U	1 U	5 U	1 U
2,4-Dichlorophenol	**53**	µg/L	1 U	3 U	1 U	3 U	1 U
2,4-Dimethylphenol	**97**	µg/L	1 U	3 U	1 U	3 U	1 U
2-Chloronaphthalene	**280**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
2-methylphenol (o-Cresol)	**NE**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
4-Chloro-3-Methylphenol	**NE**	µg/L	1 U	3 U	1 U	3 U	1 U
4-methylphenol (p-Cresol)	**NE**	µg/L	0.2 U	2 U	0.2 U	2 U	0.2 U
Aniline	**NE**	µg/L	–	–	–	–	–
Benzoic Acid	**NE**	µg/L	2 U	20 U	2 U	20 U	2 U
Benzyl Alcohol	**NE**	µg/L	0.2 U	2 U	0.2 U	2 U	0.2 U
Bis(2-Ethylhexyl) Phthalate	**1.0**	µg/L	**1.4**	3 U	**0.2**	3 U	**0.31**
Butyl benzyl Phthalate	**1.0**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
Carbazole	**NE**	µg/L	**0.66 J**	**1**	**0.72 J**	1 U	0.2 U
Dibutyl Phthalate	**8.0**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
Diethyl Phthalate	**200**	µg/L	0.2 U	1 U	**0.06 J**	1 U	**0.07 J**
Dimethyl Phthalate	**600**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
Di-N-Octyl Phthalate	**NE**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
Isophorone	**110**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
N-Nitrosodiphenylamine (as diphenylamine)	**1.0**	µg/L	0.2 U	1 U	0.2 U	1 U	0.2 U
Pentachlorophenol	**5.0**	µg/L	0.025 U	0.25 U	0.025 U	0.25 U	0.025 U
Phenol	**70000**	µg/L	**0.44**	1 U	0.2 U	1 U	0.2 U
Phosphoric Acid Tributyl Ester	**NE**	µg/L	–	–	–	–	–
Polycyclic Aromatic Hydrocarbons (PAHs)								
1-Methylnaphthalene	**NE**	µg/L	–	–	–	–	–
2-Methylnaphthalene	**NE**	µg/L	–	–	–	–	–
Acenaphthene	**30**	µg/L	**3.3**	**2.8**	**2**	0.1 U	0.01 U
Acenaphthylene	**NE**	µg/L	0.05 U	**0.05 J**	0.01 U	0.1 U	0.01 U
Anthracene	**100**	µg/L	**0.33**	0.1 U	**0.016**	0.1 U	0.01 U
Benzo(g,h,i)perylene	**NE**	µg/L	**0.037 J**	0.1 U	0.01 U	0.1 U	0.01 U
Dibenzofuran	**NE**	µg/L	**0.24**	**0.16**	**0.1**	0.1 U	0.01 U
Fluoranthene	**1.8**	µg/L	**0.29**	**0.08 J**	**0.027**	0.1 U	**0.012**
Fluorene	**10**	µg/L	**0.63**	**1**	**0.52**	0.1 U	0.01 U
Naphthalene	**1.4**	µg/L	**2.1**	**3.3**	**2.8**	0.1 U	0.01 U
Phenanthrene	**NE**	µg/L	**0.59**	**0.3**	**0.12**	0.1 U	0.01 U
Pyrene	**8.0**	µg/L	**0.46**	0.1 U	**0.023**	0.1 U	**0.015**
Benzo(a)pyrene	**0.010**	µg/L	**0.06**	0.1 U	0.01 U	0.1 U	0.01 U
Benzo(a)anthracene	**0.010**	µg/L	**0.088**	0.1 U	0.01 U	0.1 U	0.01 U
Benzo(b)fluoranthene	**0.010**	µg/L	–	–	–	–	–
Benzo(k)fluoranthene	**0.010**	µg/L	–	–	–	–	–
Benzofluoranthenes (Total)	**0.020**	µg/L	**0.094 J**	0.1 U	0.02 U	0.1 U	0.02 U
Chrysene	**0.016**	µg/L	**0.14**	0.1 U	0.01 U	0.1 U	0.01 U
Dibenzo(a,h)anthracene	**0.010**	µg/L	0.05 U	0.1 U	0.01 U	0.1 U	0.01 U
Indeno(1,2,3-c,d)pyrene	**0.010**	µg/L	**0.022 J**	0.1 U	0.01 U	0.1 U	0.01 U
Total cPAH TEQ (ND=0.5RL)	**0.010**	µg/L	**0.0843**	0.071 U	0.0076 U	0.071 U	0.0076 U

Notes:

cPAH = carcinogenic PAH; TEQ = toxicity equivalent

J = estimated value; T = summed result

µg/L = micrograms per liter; U = not detected

NE = a screening level was not established for this analyte (see Table 8)

Bold = detected value

Yellow Fill indicates detected result > the groundwater screening level

Blue Fill indicates not detected with reporting limit > the groundwater screening level

Table G-6

RI Groundwater Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	EIM_DMCSITE	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1
			Location ID:	DMC*SP-01	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10
			Sample ID:	SP-01-071808	MW-01-071608	MW-03-071608	MW-04-071608	MW-05-071708	MW-08-071708	MW-09-071708	MW-10-071708	MW-11-071708	MW-12-071608	MW-1-08152013	MW-3-08162013	MW-4-08162013	MW-5-08152013	MW-8-08142013	MW-9-08152013	MW-10-08152013
			Date Sampled:	07/18/08	07/16/08	07/16/08	07/16/08	07/17/08	07/17/08	07/17/08	07/17/08	07/17/08	07/16/08	08/15/13	08/16/13	08/16/13	08/15/13	08/14/13	08/15/13	08/16/13
Parameter	**Screening Level**	**Units**																		
Polychlorinated Biphenyls (PCBs)																				
PCB-Aroclor 1242	**NE**	µg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.023 U	0.02 U	0.02 U	**0.11**	0.02 U	**0.1**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
PCB-Aroclor 1248	**NE**	µg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.034**	0.02 U	0.02 U	0.02 U	0.010 U	0.010 U	0.015 U	0.010 U	0.010 U	**0.010 J**	**0.021**
PCB-Aroclor 1254	**0.010**	µg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.024 U	0.02 U	0.025 U	0.02 U	0.02 U	0.02 U	0.010 U	0.010 U	**0.016**	**0.011**	0.010 U	**0.0080 J**	0.010 U
PCB-Aroclor 1260	**NE**	µg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.010 U	0.010 U	**0.0070 J**	0.010 U	0.010 U	0.010 U	0.010 U
Total PCBs	**0.010**	µg/L	0.04 U	0.04 U	0.039 U	0.04 U	0.04 U	0.04 U	**0.034**	**0.11**	0.04 U	**0.1**	0.01 U	0.01 U	**0.023**	**0.011**	0.01 U	**0.018**	**0.021**
Pesticides																				
2,4'-DDD	**0.00050**	µg/L	0.0005 U	0.00071 U	0.00049 U	0.0005 U	0.0026 U	0.0005 U	0.0023 U	0.0005 U	0.0005 U	0.00079 U	0.00049 U	0.00050 U	**0.00028 J**	**0.00039 J**	0.00050 U	0.00049 U	**0.00030 J**
2,4'-DDE	**0.00050**	µg/L	0.0005 U	0.0038 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	**0.00023 J**
2,4'-DDT	**0.00050**	µg/L	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	0.0016 U	0.00062 U	0.0005 U	**0.0015**	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U
4,4'-DDD	**0.00050**	µg/L	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.0033 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	0.00049 U	**0.00019 J**	**0.00098**	**0.0017**	**0.00027 J**	**0.00019 J**	**0.00032 J**
4,4'-DDE	**0.00050**	µg/L	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	**0.00022 J**	**0.00011 J**	**0.00046 J**	**0.00054**	**0.00013 J**	**0.00058**	**0.0011**
4,4'-DDT	**0.00050**	µg/L	0.0005 U	0.0005 U	0.00049 U	0.002 U	0.0014 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	**0.0024 J**	0.00049 U	0.00050 U	0.00049 U	0.00049 U	**0.00014 J**	0.00049 U	0.00050 U
Aldrin	**0.0010**	µg/L	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.00055 U	0.0005 U	0.00057 U	0.0011 U	0.0005 U	0.00055 U	0.0010 UJ	0.0010 U	0.0010 UJ	0.0010 U	0.0010 U	0.0010 UJ	0.0010 U
Alpha-BHC	**0.0010**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00049 U	0.00050 U	0.00049 UJ	0.00049 U	0.00050 U	0.00049 U	0.00050 U
Beta-BHC	**0.0014**	µg/L	–	–	–	–	–	–	–	–	–	–	**0.00020 J**	**0.00019 J**	0.00049 U	0.00097 U	0.00099 U	0.00097 U	0.00050 U
Chlorpyrifos	**0.0056**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	**0.0014**	0.00050 U
cis-Nonachlor	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U
Delta-BHC	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00060 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U
Dieldrin	**0.0050**	µg/L	0.0038 U	0.0005 U	**0.0041 J**	0.0005 U	**0.004 J**	0.0011 U	0.0012 U	0.0005 U	0.0005 U	0.0015 U	0.0049 U	0.0050 U	0.0049 U	0.0049 U	0.0050 U	0.0049 U	0.0050 U
Endosulfan II	**0.0087**	µg/L	–	–	–	–	–	–	–	–	–	–	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
Endosulfan Sulfate	**10**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U
Endrin	**0.0020**	µg/L	–	–	–	–	–	–	–	–	–	–	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
Endrin Ketone	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00097 U	0.0013 U	0.00097 U	**0.00040 J**	0.00099 U	0.00097 U	0.00099 U
Heptachlor	**0.0010**	µg/L	0.00088 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	0.002 U	**0.0013 J**	0.0005 U	0.0005 U	**0.00032 J**	0.00099 U	0.00097 U	**0.00013 J**	**0.00023 J**	**0.00017 J**	0.00099 U
Heptachlor Epoxide	**0.0010**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00097 U	0.00099 U	0.00097 U	0.00097 U	0.00099 U	0.00097 U	0.00099 U
Hexachlorobenzene	**0.0010**	µg/L	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U
Isodrin	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	0.0020 UJ	0.0020 U	0.0020 UJ	0.0020 U	0.0020 U	0.0020 UJ	0.0020 U
Lindane (Gamma-BHC)	**0.13**	µg/L	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00079 U	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	**0.00042 J**	0.00050 U	0.00049 UJ	0.00097 U	0.00099 U	0.00097 U	0.00050 U
Methoxychlor	**0.020**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00049 U	0.00050 U	0.00049 U	0.00049 U	**0.00015 J**	0.00049 U	0.00050 U
Mirex	**0.0010**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00097 U	0.00099 U	0.00097 U	0.00097 U	**0.00017 J**	0.00097 U	**0.00013 J**
Octachlorostyrene	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00097 U	0.00099 U	0.00097 U	0.00097 U	0.00099 U	0.00097 U	0.00099 U
trans-Nonachlor	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U
alpha-Chlordane (cis)	**0.00050**	µg/L	0.0021 U	0.00084 U	0.00049 U	0.00058 U	0.0005 U	0.0005 U	0.0015 U	0.00099 U	0.0011 U	0.0005 U	**0.00013 J**	0.00050 U	0.00049 U	**0.00023 J**	0.00050 U	0.00049 U	0.00050 U
gamma-Chlordane	**0.00050**	µg/L	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.0011 U	0.00059 U	0.00049 U	0.0005 U	0.0005 U	0.0005 U	0.00049 U	0.00050 U	0.00049 U	**0.00030 J**	0.00050 U	0.00049 U	0.00050 U
Chlordane (Total)	**NE**	µg/L	0.016 U	0.01 U	0.0098 U	0.011 U	0.015 U	0.01 U	0.014 U	0.01 U	0.0099 U	0.015 U	–	–	–	–	–	–	–
Total Metals																				
Arsenic	**5.0**	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	**5.4**	5 U	5 U	5 U	**1.4**	**3.3**	**15.0**	**3.4**	**2.2**	**4**	1 U
Cadmium	**7.9**	µg/L	0.02 U	0.02 U	0.02 U	0.02 U	**0.04**	0.02 U	**0.03**	**0.03**	0.02 U	0.02 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.5 U	0.2 U
Chromium	**27**	µg/L	**0.7**	**1.3**	**3.5**	**2.2**	**15.1**	**1.3**	**1.2**	**0.7**	**0.5**	**1.3**	1 U	**1.5**	1 U	**6.7 J**	1 U	2 U	1 U
Copper	**3.1**	µg/L	**1.6**	**0.3**	**2**	**0.3**	**1.6**	**0.5**	**0.9**	**0.3**	**0.9**	**0.5**	0.5 U	**1.8**	0.5 U	**3.9**	**1**	**4**	1 U
Lead	**8.1**	µg/L	**0.75**	**0.03**	**0.31**	**0.11**	**1.4**	**1.61**	**0.76**	**0.1**	**0.03**	**0.5**	0.1 U	**0.3**	**4.5**	**2.6**	**0.4**	0.5 U	0.2 U
Mercury	**0.025**	µg/L	**0.0021**	0.001 U	**0.0026**	0.001 U	**0.005**	**0.0025**	**0.0071**	**0.001**	**0.0012**	**0.0029**	**0.00083 J**	**0.00146**	**0.00245**	**0.00389**	**0.00094 J**	**0.00066 J**	**0.00017 J**
Nickel	**8.2**	µg/L	–	–	–	–	–	–	–	–	–	–	**1.4**	**1.3**	**1.1**	**3.6**	**3**	**8**	**5**
Silver	**1.9**	µg/L	0.02 U	0.02 U	0.02 U	0.02 U	**0.04**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5 U	1 U	0.5 U
Zinc	**81**	µg/L	**4.1**	**0.7**	**6**	**1.1**	**13.2**	**6.5**	**4.6**	**1.3**	**8.3**	**2.5**	4 UJ	**15**	**6**	**32 J**	10 U	20 UJ	10 UJ
Dissolved Metals																				
Arsenic	**5.0**	µg/L	–	–	–	–	–	–	–	–	–	–	**1.0**	**2.8**	**14.2**	**2.1**	**2.0**	**3**	1 U
Cadmium	**7.9**	µg/L	–	–	–	–	–	–	–	–	–	–	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U	0.5 U	0.2 U
Chromium	**27**	µg/L	–	–	–	–	–	–	–	–	–	–	1 U	1 U	1 U	**4.1**	1 U	2 U	1 U
Copper	**3.1**	µg/L	–	–	–	–	–	–	–	–	–	–	0.5 U	0.5 U	0.5 U	0.5 U	**1**	**4**	1 U
Lead	**8.1**	µg/L	–	–	–	–	–	–	–	–	–	–	0.1 U	0.1 U	**3.3**	0.1 U	0.2 U	0.5 U	0.2 U
Mercury	**0.025**	µg/L	–	–	–	–	–	–	–	–	–	–	**0.00046 J**	**0.00046 J**	**0.00173**	**0.00192**	**0.00136**	**0.00031 J**	**0.00028 J**
Nickel	**8.2**	µg/L	–	–	–	–	–	–	–	–	–	–	**1.4**	**1.1**	**1.2**	**1.8**	**3**	**8**	**5**
Silver	**1.9**	µg/L	–	–	–	–	–	–	–	–	–	–	0.2 UJ	0.2 U	0.2 U	0.2 UJ	0.5 U	1 UJ	0.5 UJ
Zinc	**81**	µg/L	–	–	–	–	–	–	–	–	–	–	4 U	4 U	4 U	4 U	10 U	20 U	10 U

Table G-6

RI Groundwater Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_1	RI/FS_RND_2
			Location ID:	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-17	MW-18	MW-19	MW-2R	SEEP-1	SP-1	SP-1	DP-10	DP-11	DMC*MW-01
			Sample ID:	MW-11-08152013	MW-12-08152013	MW-13-08142013	MW-14-08192013	MW-15-08152013	MW-16-08192013	MW-17-08192013	MW-DUP-0819201	MW-18-08202013	MW-19-08202013	MW-2R-08202013	GEI-SEEP-1-09031	DUP-L-090403	GEI-SP-1	DP-10	DP-11	MW-1-20131216
			Date Sampled:	08/15/13	08/16/13	08/14/13	08/19/13	08/15/13	08/19/13	08/19/13	08/19/13	08/20/13	08/20/13	08/20/13	09/03/13	09/04/13	09/04/13	07/08/13	07/08/13	12/16/13
Parameter	**Screening Level**	**Units**																		
Polychlorinated Biphenyls (PCBs)																				
PCB-Aroclor 1242	**NE**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.025 U	0.010 U	0.10 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
PCB-Aroclor 1248	**NE**	µg/L	0.010 U	**0.018**	**0.034**	0.010 U	**0.0090 J**	0.035 U	**0.38**	**0.28**	0.010 U	0.010 U	**0.042**	**1.4**	**0.020**	0.010 U	0.010 U	0.010 U	0.010 U
PCB-Aroclor 1254	**0.010**	µg/L	0.010 U	**0.012**	**0.037**	0.010 U	**0.0080 J**	**0.10**	**0.34**	**0.25**	0.010 U	0.012 U	**0.061**	**1.9**	**0.016 J**	**0.30 J**	**0.017**	0.010 U	0.010 U
PCB-Aroclor 1260	**NE**	µg/L	0.010 U	0.010 U	**0.015**	0.010 U	0.010 U	**0.062**	**0.15**	**0.11**	0.010 U	0.010 U	**0.040**	**1.1**	**0.0090 J**	**0.30 J**	**0.0080 J**	0.010 U	0.010 U
Total PCBs	**0.010**	µg/L	0.01 U	**0.03**	**0.086**	0.01 U	**0.017**	**0.162**	**0.87**	**0.64 T**	0.01 U	0.025 U	**0.143**	**4.4**	**0.045 T**	**0.6**	**0.025**	0.015 U	0.01 U
Pesticides																				
2,4'-DDD	**0.00050**	µg/L	0.00049 U	**0.00031 J**	**0.0015**	**0.00014 J**	**0.00027 J**	**0.0020**	**0.0072 J**	**0.0030 J**	**0.00030 J**	**0.00020 J**	**0.00085**	**0.052**	**0.00031 J**	**0.00036 J**	–	–	0.00050 U
2,4'-DDE	**0.00050**	µg/L	**0.00013 J**	0.00050 U	**0.00040 J**	0.00050 U	**0.00014 J**	**0.00087**	**0.00063**	**0.00080**	0.00050 U	0.00049 U	**0.00051**	**0.0054**	**0.00012 J**	**0.00015 J**	–	–	0.00050 U
2,4'-DDT	**0.00050**	µg/L	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	**0.0013**	0.00049 U	0.00049 U	–	–	0.00050 U
4,4'-DDD	**0.00050**	µg/L	0.00049 U	**0.00078**	**0.0058**	**0.00030 J**	**0.0020**	**0.016**	**0.031 J**	**0.011 J**	**0.0015**	**0.00085**	**0.0077**	**0.16**	**0.0010**	**0.0011**	–	–	0.00050 U
4,4'-DDE	**0.00050**	µg/L	**0.00016 J**	**0.00059**	**0.0030**	**0.00028 J**	**0.0010**	**0.01**	**0.018 J**	**0.0075 J**	**0.0013**	**0.00048 J**	**0.0052**	**0.072**	**0.0014**	**0.0016**	–	–	0.00050 U
4,4'-DDT	**0.00050**	µg/L	0.00049 U	0.00050 U	**0.00025 J**	0.00050 U	0.00049 U	**0.00030 J**	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	**0.0032**	0.00049 U	0.00049 U	–	–	0.00050 U
Aldrin	**0.0010**	µg/L	0.0010 U	0.0010 U	**0.00067 J**	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0022 U	0.0010 U	0.0010 U	–	–	0.0010 U
Alpha-BHC	**0.0010**	µg/L	**0.00021 J**	0.00050 U	**0.00019 J**	0.00050 U	0.00049 U	**0.00016 J**	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	**0.00015 J**	0.00049 U	0.00049 U	–	–	0.00050 U
Beta-BHC	**0.0014**	µg/L	0.00097 U	0.00099 U	**0.00021 J**	0.00050 U	**0.00021 J**	0.00049 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	–	–	0.00050 U
Chlorpyrifos	**0.0056**	µg/L	0.00049 U	**0.0093**	0.00049 U	0.00050 U	**0.00053**	0.00049 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	–	–	0.00050 U
cis-Nonachlor	**NE**	µg/L	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	–	–	0.00050 U
Delta-BHC	**NE**	µg/L	0.00049 U	0.00050 U	0.00065 U	0.00050 U	**0.00032 J**	0.0013 U	0.00061 U	0.00052 U	**0.00044 J**	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	–	–	0.00050 UJ
Dieldrin	**0.0050**	µg/L	0.0049 U	0.0050 U	0.0049 U	0.0050 U	0.0049 U	0.0049 U	0.0049 U	**0.0012 J**	0.0050 U	0.0049 U	0.0050 U	0.0050 U	0.0049 U	0.0049 U	–	–	0.0050 U
Endosulfan II	**0.0087**	µg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.017 U	0.0020 U	0.0020 U	–	–	0.0020 U
Endosulfan Sulfate	**10**	µg/L	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	–	–	0.00050 U
Endrin	**0.0020**	µg/L	0.0020 U	0.0020 U	**0.00067 J**	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	–	–	0.0050 U
Endrin Ketone	**NE**	µg/L	0.00097 U	0.00099 U	0.00097 U	0.00099 U	**0.00030 J**	**0.00055 J**	0.00097 U	0.0010 U	0.0010 U	**0.00048 J**	0.00099 U	**0.00044 J**	0.00097 U	0.00098 U	–	–	0.00099 U
Heptachlor	**0.0010**	µg/L	**0.00036 J**	**0.00019 J**	**0.00030 J**	**0.00012 J**	**0.00021 J**	**0.00042 J**	**0.00015 J**	0.0010 U	**0.00014 J**	0.00098 U	0.00099 U	0.00099 UJ	0.00097 U	0.00098 U	–	–	0.00099 U
Heptachlor Epoxide	**0.0010**	µg/L	**0.00025 J**	0.00099 U	**0.00025 J**	0.00099 U	0.00097 U	0.00097 U	0.00097 U	0.0010 U	0.0010 U	0.00098 U	0.00099 U	0.00099 U	0.00097 U	0.00098 U	–	–	0.00099 U
Hexachlorobenzene	**0.0010**	µg/L	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	**0.00036 J**	0.00049 U	0.00049 U	1.0 U	1.0 U	0.00099 U
Isodrin	**NE**	µg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	–	–	0.0020 U
Lindane (Gamma-BHC)	**0.13**	µg/L	0.00097 U	0.00099 U	0.00097 U	0.00050 U	0.00097 U	**0.00069**	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 UJ	0.00049 U	0.00049 U	–	–	0.00050 U
Methoxychlor	**0.020**	µg/L	0.00049 U	0.00050 U	**0.00016 J**	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	–	–	0.00050 U
Mirex	**0.0010**	µg/L	0.00097 U	**0.000099 J**	0.00097 U	**0.000098 J**	**0.00011 J**	0.00097 U	**0.000092 J**	**0.00011 J**	**0.00012 J**	0.00098 U	0.00099 U	**0.00015 J**	0.00097 U	**0.000095 J**	–	–	0.00099 U
Octachlorostyrene	**NE**	µg/L	0.00097 U	0.00099 U	0.00097 U	0.00099 U	0.00097 U	0.00097 U	0.00097 U	0.0010 U	0.0010 U	0.00098 U	0.00099 U	0.00099 U	0.00097 U	0.00098 U	–	–	0.00099 U
trans-Nonachlor	**NE**	µg/L	**0.00017 J**	0.00050 U	**0.00017 J**	0.00050 U	0.00049 U	**0.00019 J**	**0.00026 J**	**0.00015 J**	0.00050 U	0.00049 U	0.00050 U	**0.0012**	0.00049 U	0.00049 U	–	–	0.00050 U
alpha-Chlordane (cis)	**0.00050**	µg/L	**0.00020 J**	0.00050 U	**0.00025 J**	0.00050 U	**0.00017 J**	**0.00050**	**0.00076**	**0.00045 J**	0.00050 U	0.00049 U	0.00050 U	**0.0030**	0.00049 U	0.00049 U	–	–	0.00050 U
gamma-Chlordane	**0.00050**	µg/L	**0.00022 J**	0.00050 U	**0.00029 J**	0.00050 U	**0.00023 J**	**0.0016**	**0.0012 J**	**0.00055**	0.00050 U	0.00049 U	**0.00033 J**	**0.0038**	0.00049 U	0.00049 U	–	–	0.00050 U
Chlordane (Total)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Metals																			
Arsenic	**5.0**	µg/L	1 U	**1.3**	**2**	**2**	**2.4**	**7.1**	**4.2**	**4.2**	**6.6**	**4.5**	**10.3**	**4 J**	**2 J**	**5 J**	–	–	**0.6**
Cadmium	**7.9**	µg/L	0.5 U	0.1 U	0.5 U	0.2 U	0.1 U	**0.2**	0.1 U	0.1 U	0.1 U	0.1 U	**0.6**	0.5 U	0.2 U	0.2 U	–	–	0.1 U
Chromium	**27**	µg/L	2 UJ	**2 J**	2 U	1 U	**1.0 J**	**15 J**	**6.6 J**	**6.8 J**	**3.1 J**	**4 J**	**21 J**	**4 J**	1 U	**1 J**	–	–	**0.9**
Copper	**3.1**	µg/L	**5**	**0.6**	**7**	**1**	**2.3**	**23.6**	**4.7**	**4.7**	**10.7**	**4.1**	**48**	**19**	**4 J**	**8 J**	–	–	0.5 U
Lead	**8.1**	µg/L	0.5 U	**0.3**	**2.0**	**0.4**	**1.2**	**35.7**	**5.0**	**5.2**	**9.0**	**2.9**	**44.7**	**44.7**	**0.6 J**	**7.5 J**	–	–	0.1 U
Mercury	**0.025**	µg/L	**0.00149**	**0.00176**	**0.00787**	**0.00193**	**0.00919**	**0.237**	**0.0612**	**0.0766**	**0.0183**	**0.0500**	**0.133**	**0.991**	**0.0025 J**	**0.00631 J**	–	–	**0.00035 J**
Nickel	**8.2**	µg/L	**6**	**1.7**	**14**	**2**	**5.0**	**8.2**	**3.0**	**3.1**	**3.1**	**3.5**	**16.8**	**8**	**6**	**6**	–	–	**1.6**
Silver	**1.9**	µg/L	1 U	0.2 U	1 U	0.5 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5 U	1 U	0.5 U	0.5 U	–	–	0.2 U
Zinc	**81**	µg/L	**20 J**	**13 J**	**40**	10 U	**6 J**	**55**	**12**	**15**	**14**	**8**	**84**	**160**	10 UJ	**30 J**	–	–	4 U
Dissolved Metals																			
Arsenic	**5.0**	µg/L	1 U	**1.2**	1 U	**2**	**2.0**	**2.5**	**3.2**	**3.2**	**5.4**	**3.0**	**2.9**	**3 J**	**2 J**	**2 J**	–	–	**0.6**
Cadmium	**7.9**	µg/L	0.5 U	0.1 U	0.5 U	0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.2 U	0.2 U	–	–	0.1 U
Chromium	**27**	µg/L	2 U	1 U	2 U	1 U	0.5 U	**3.8**	**4.6**	**4.9**	1 U	**1.6**	**1.8**	2 U	1 U	1 U	–	–	2 U
Copper	**3.1**	µg/L	**7**	0.5 U	**5**	1 U	**0.7**	0.5 U	0.5 U	**0.5**	**1.1**	0.5 U	**0.7**	**4**	**3**	**4**	–	–	0.5 U
Lead	**8.1**	µg/L	0.5 U	0.1 U	0.5 U	0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.2 U	**0.4**	–	–	0.1 U
Mercury	**0.025**	µg/L	**0.00135**	**0.00088 J**	**0.00036 J**	**0.00042 J**	**0.00057 J**	**0.00076 J**	**0.00145**	**0.00178**	**0.00032 J**	**0.00066 J**	**0.00046 J**	**0.00238**	**0.00063 J**	**0.00165**	–	–	**0.00065 J**
Nickel	**8.2**	µg/L	**6**	**1.6**	**15**	**2**	**4.3**	**0.7**	**1.0**	**1.1**	**1.6**	**2.0**	**1.4**	**7**	**6**	**6**	–	–	**3.5**
Silver	**1.9**	µg/L	1 UJ	0.2 UJ	1 U	0.5 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 UJ	0.2 UJ	0.2 UJ	1 U	0.5 U	0.5 U	–	–	0.2 U
Zinc	**81**	µg/L	**20 J**	**5 J**	**30**	10 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	20 U	10 U	**10**	–	–	**10**

Table G-6

RI Groundwater Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2	RI/FS_RND_2
			Location ID:	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-18	MW-19	MW-2R
			Sample ID:	MW-3-131216	MW-4-20131216	MW-5-20131226	MW-8-20131219	MW-9-131216	MW-10-20131216	MW-11-20131226	DMC*MW-12-131216	MW-13-20131217	MW-14-20131217	MW-15-20131226	MW-16-20131216	MW-17-20131220	MW-18-20131219	MW-DUP-20131219	MW-19-131216	MW-2R-20131220
			Date Sampled:	12/16/13	12/16/13	12/26/13	12/19/13	12/16/13	12/16/13	12/26/13	12/16/13	12/17/13	12/17/13	12/26/13	12/16/13	12/20/13	12/19/13	12/19/13	12/16/13	12/20/13
Parameter	**Screening Level**	**Units**																		
Polychlorinated Biphenyls (PCBs)																				
PCB-Aroclor 1242	**NE**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
PCB-Aroclor 1248	**NE**	µg/L	0.010 U	0.025 U	0.010 U	0.010 U	0.015 U	0.020 U	0.010 U	**0.018**	**0.13**	0.010 U	0.010 U	0.010 U	**0.086**	0.010 U	0.010 U	0.015 U	0.015 U
PCB-Aroclor 1254	**0.010**	µg/L	0.010 U	**0.051**	0.010 U	0.010 U	**0.037**	**0.026**	0.010 U	**0.017**	**0.20**	0.010 U	**0.023**	**0.015**	**0.10**	0.010 U	0.010 U	0.015 U	0.020 U
PCB-Aroclor 1260	**NE**	µg/L	0.010 U	**0.026**	0.010 U	0.010 U	**0.021**	**0.011**	0.010 U	0.010 U	**0.088**	0.010 U	**0.011**	0.010 U	**0.037**	0.010 U	0.010 U	0.010 U	**0.0060 J**
Total PCBs	**0.010**	µg/L	0.025 U	**0.077**	0.015 U	0.01 U	**0.058**	**0.037**	0.01 U	**0.035**	**0.418**	0.02 U	**0.034**	**0.015**	**0.223**	0.01 U	0.015 UT	0.015 U	**0.006**
Pesticides																				
2,4'-DDD	**0.00050**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	**0.00016 J**	**0.00027 J**	0.00049 U	**0.00030 J**	**0.0060**	**0.00012 J**	**0.00023 J**	**0.00019 J**	**0.00091**	0.00050 U	0.00050 U	0.00049 U	**0.00017 J**
2,4'-DDE	**0.00050**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	**0.00025 J**	0.00049 U	0.00049 U	**0.00093**	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
2,4'-DDT	**0.00050**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
4,4'-DDD	**0.00050**	µg/L	0.00050 U	**0.0014**	**0.00019 J**	0.00050 U	**0.00029 J**	0.00049 U	0.00049 U	**0.00081**	**0.027**	**0.00030 J**	**0.0014**	0.00087 U	**0.0033**	**0.00053**	0.00050 U	0.00051 U	**0.0011**
4,4'-DDE	**0.00050**	µg/L	0.00050 U	**0.00096**	**0.00010 J**	0.00050 U	**0.0016**	0.00079 U	**0.00012 J**	**0.00047 J**	**0.012**	**0.00022 J**	**0.00052**	**0.00060**	**0.0023**	**0.00048 J**	**0.00029 J**	**0.00026 J**	**0.00072**
4,4'-DDT	**0.00050**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
Aldrin	**0.0010**	µg/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 UJ	0.0010 U	0.0010 U	0.0010 U	0.0010 UJ	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Alpha-BHC	**0.0010**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
Beta-BHC	**0.0014**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
Chlorpyrifos	**0.0056**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
cis-Nonachlor	**NE**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
Delta-BHC	**NE**	µg/L	0.00050 UJ	0.00050 UJ	0.00050 U	0.00050 UJ	0.00050 UJ	0.00049 UJ	0.00049 U	0.00049 UJ	0.00099 UJ	0.00049 UJ	0.00050 U	0.00050 UJ	0.00050 UJ	0.00050 UJ	0.00050 UJ	0.00049 UJ	0.00050 UJ
Dieldrin	**0.0050**	µg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0049 U	0.0049 U	0.0049 U	0.0050 U	0.0049 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0049 U	0.0050 U
Endosulfan II	**0.0087**	µg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
Endosulfan Sulfate	**10**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
Endrin	**0.0020**	µg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0049 U	0.0049 U	0.0049 U	0.0050 U	0.0049 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0049 U	0.0050 U
Endrin Ketone	**NE**	µg/L	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00097 U	0.00098 U	0.00099 U	0.00098 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00098 U	0.00099 U
Heptachlor	**0.0010**	µg/L	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00097 U	0.00098 U	**0.00044 J**	0.00098 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00098 U	0.00099 U
Heptachlor Epoxide	**0.0010**	µg/L	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00097 U	0.00098 U	0.00099 U	0.00098 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00098 U	0.00099 U
Hexachlorobenzene	**0.0010**	µg/L	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00097 U	0.00098 U	**0.00027 J**	0.00098 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00098 U	0.00099 U
Isodrin	**NE**	µg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 UJ	0.0020 U	0.0020 U	**0.0011 J**	0.0019 UJ	**0.00041 J**	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
Lindane (Gamma-BHC)	**0.13**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
Methoxychlor	**0.020**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U
Mirex	**0.0010**	µg/L	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00097 U	**0.000098 J**	**0.00012 J**	**0.00010 J**	0.00099 U	0.0010 U	0.00099 U	**0.00012 J**	0.00099 U	0.00098 U	**0.00015 J**
Octachlorostyrene	**NE**	µg/L	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00097 U	0.00098 U	0.00099 U	0.00098 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00098 U	0.00099 U
trans-Nonachlor	**NE**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	**0.00029 J**	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	**0.00013 J**	0.00050 U
alpha-Chlordane (cis)	**0.00050**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	**0.00080**	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	**0.00021 J**	0.00050 U
gamma-Chlordane	**0.00050**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00049 U	0.00049 U	**0.0012**	0.00049 U	0.00050 U	**0.00020 J**	**0.00022 J**	0.00050 U	0.00050 U	**0.00023 J**	0.00050 U
Chlordane (Total)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Metals																				
Arsenic	**5.0**	µg/L	**1.1**	**5.5**	**2.4**	2 U	**3**	**1.6**	**1.1**	**1.1**	**1.5**	**1.2**	**4.0**	**7.4**	**3.1**	**3.4**	**3**	**2.5**	**2.5**
Cadmium	**7.9**	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.2**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chromium	**27**	µg/L	**2.0**	**1.2**	**6**	0.5 U	0.5 U	0.5 U	0.5 U	**1.1**	**0.7**	0.5 U	**3**	**16**	**6**	**1.6**	2 U	**2.0**	**3**
Copper	**3.1**	µg/L	**0.7**	0.5 U	**2.8**	2 U	**2.3**	**1.1**	**3.0**	0.5 U	**2.0**	**1.0**	**10.7**	**19.2**	**1.0**	**1.6**	**2**	**2.2**	**3.7**
Lead	**8.1**	µg/L	**0.2**	**1.6**	**1.0**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.8**	**0.2**	**4.0**	**24.8**	**0.8**	**2.3**	**2.0**	**1.4**	**1.0**
Mercury	**0.025**	µg/L	**0.00101**	**0.00109**	**0.00656**	**0.00013 J**	**0.00035 J**	**0.00057 J**	**0.00191**	**0.00065 J**	**0.00520**	**0.00121**	**0.0668**	**0.0647**	**0.00818**	**0.0061 J**	**0.00382 J**	**0.00584**	**0.0282**
Nickel	**8.2**	µg/L	**0.7**	**2.2**	**2.4**	**4**	**3.3**	**2.1**	**1.0**	**1.7**	**1.7**	**3.3**	**7.2**	**11.2**	**1.6**	**2.3 J**	**3 J**	**3.2**	**1.7**
Silver	**1.9**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 UJ
Zinc	**81**	µg/L	**6**	**5**	**410**	**5**	**6**	**4**	**14**	4 U	**8**	**6 J**	**30**	**48**	**4**	**7**	**6**	**10**	**7**
Dissolved Metals																				
Arsenic	**5.0**	µg/L	**1.0**	**5.2**	**1.6**	2 U	**1**	1 U	**1.6**	**1.1**	**1.8**	1 U	**0.8**	**2.4**	**2.9**	**3.1**	**3.7**	**2.2**	**2.7**
Cadmium	**7.9**	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chromium	**27**	µg/L	2 U	2 U	**4**	0.5 U	0.5 U	0.5 U	0.5 U	2 U	0.5 U	0.5 U	1 U	**4**	**5**	2 U	2 U	**1.3**	**2**
Copper	**3.1**	µg/L	0.5 U	0.5 U	0.5 U	2 U	**2.0**	**1.1**	**3.7**	0.5 U	**0.8**	**1.1**	**0.9**	**0.9**	0.5 U	0.5 U	1 U	0.5 U	**0.7**
Lead	**8.1**	µg/L	0.1 U	**1.2**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**1.0**	0.1 U	**0.2**	**0.2**	0.1 U	**0.3**
Mercury	**0.025**	µg/L	**0.00041 J**	**0.00084 J**	**0.00111**	**0.00011 J**	**0.00015 J**	**0.00034 J**	**0.00152**	**0.00040 J**	**0.00015 J**	**0.00108**	**0.00117**	**0.0190**	**0.00093 J**	**0.00063 J**	**0.00054 J**	**0.00040 J**	**0.00235**
Nickel	**8.2**	µg/L	**0.7**	**4.8**	**3.7**	**5**	**3.2**	**2.5**	**2.3**	**2.9**	**1.3**	**4.8**	**3.5**	**1.5**	**1.6**	**2.0 J**	**3 J**	**2.6**	**4.0**
Silver	**1.9**	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 UJ
Zinc	**81**	µg/L	4 U	**4**	**5**	**6**	**6**	**4**	**7**	4 U	**4**	**6 J**	**5**	**12**	**6**	4 U	4 U	4 U	**6**

Table G-6

RI Groundwater Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3
			Location ID:	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-19
			Sample ID:	MW-1-031914	MW-3-031914	MW-4-031714	MW-5-031714	MW-8-031914	MW-9-031914	MW-10-031914	MW-11-031914	MW-12-031914	MW-13-032014	MW-14-031814	MW-15-032014	MW-16-031714	MW-17-031714	MW-18-031814	DUP-GW-031714	MW-19-031714
			Date Sampled:	03/19/14	03/19/14	03/17/14	03/17/14	03/19/14	03/19/14	03/19/14	03/19/14	03/19/14	03/20/14	03/18/14	03/20/14	03/17/14	03/17/14	03/18/14	03/17/14	03/17/14
Parameter	**Screening Level**	**Units**																		
Polychlorinated Biphenyls (PCBs)																				
PCB-Aroclor 1242	**NE**	µg/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	
PCB-Aroclor 1248	**NE**	µg/L	0.010 U	0.010 U	0.025 U	0.010 U	0.010 U	**0.016**	**0.011**	0.010 U	**0.0090 J**	**0.014**	0.010 U	0.010 U	0.010 U	**0.98**	0.010 U	0.020 U	0.010 U	
PCB-Aroclor 1254	**0.010**	µg/L	0.010 U	0.010 U	**0.044**	0.010 U	0.010 U	**0.032**	**0.0090 J**	0.010 U	**0.0080 J**	**0.015**	0.010 U	0.010 U	**0.012**	**0.88**	0.010 U	**0.031**	0.010 U	
PCB-Aroclor 1260	**NE**	µg/L	0.010 U	0.010 U	**0.034**	0.010 U	0.010 U	**0.016**	0.010 U	0.010 U	0.010 U	**0.0090 J**	0.010 U	0.010 U	0.010 U	**0.55**	0.010 U	**0.022**	0.010 U	
Total PCBs	**0.010**	µg/L	0.01 U	0.01 U	**0.078**	0.01 U	0.01 U	**0.064**	**0.02**	0.01 U	**0.017**	**0.038**	0.01 U	0.01 U	**0.012**	**2.41**	0.01 U	**0.053 T**	0.01 U	
Pesticides																				
2,4'-DDD	**0.00050**	µg/L	0.00049 U	0.00050 U	0.00055 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	**0.00054**	0.00050 U	0.00050 U	0.00049 U	**0.0020**	0.00050 U	**0.00038 J**	0.00050 U	
2,4'-DDE	**0.00050**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	**0.00011 J**	**0.00012 J**	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	**0.00044 J**	0.00050 U	0.00050 U	0.00050 U	
2,4'-DDT	**0.00050**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
4,4'-DDD	**0.00050**	µg/L	0.00049 U	0.00050 U	**0.0018**	0.00050 U	**0.00016 J**	**0.00025 J**	**0.00025 J**	0.00050 U	0.00050 U	**0.0023**	0.00050 U	**0.00021 J**	**0.00086**	**0.0084**	0.00050 U	**0.0014**	0.00050 U	
4,4'-DDE	**0.00050**	µg/L	0.00049 U	**0.000083 J**	**0.0011**	0.00050 U	0.00050 U	**0.0011**	**0.00040 J**	**0.000081 J**	**0.00021 J**	**0.00083**	0.00050 U	**0.000093 J**	**0.00078**	**0.0046**	**0.00019 J**	**0.00093**	**0.00010 J**	
4,4'-DDT	**0.00050**	µg/L	0.00049 U	**0.00060**	0.00050 U	0.00050 U	0.00050 U	0.00059 U	0.00050 U	0.00050 U	0.00050 U	**0.00094**	**0.00038 J**	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	
Aldrin	**0.0010**	µg/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	
Alpha-BHC	**0.0010**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
Beta-BHC	**0.0014**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
Chlorpyrifos	**0.0056**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	**0.00027 J**	0.00050 U	**0.00038 J**	0.00050 U	
cis-Nonachlor	**NE**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
Delta-BHC	**NE**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
Dieldrin	**0.0050**	µg/L	0.0049 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0049 U	0.0050 U	0.0050 U	0.0049 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	
Endosulfan II	**0.0087**	µg/L	0.0049 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0049 U	0.0050 U	0.0050 U	0.0049 U	0.0050 U	0.0050 U	0.0050 U	
Endosulfan Sulfate	**10**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
Endrin	**0.0020**	µg/L	0.0020 U	**0.0011 J**	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	
Endrin Ketone	**NE**	µg/L	0.00098 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00099 U	0.00099 U	0.00098 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	
Heptachlor	**0.0010**	µg/L	**0.00016 J**	**0.00013 J**	0.00099 U	0.00099 U	0.00099 U	**0.00012 J**	**0.00017 J**	**0.00017 J**	0.00099 U	**0.00016 J**	**0.00015 J**	**0.00015 J**	0.00098 U	**0.00013 J**	0.00099 U	**0.00021 J**	0.00099 U	
Heptachlor Epoxide	**0.0010**	µg/L	0.00098 U	**0.00070 J**	0.00099 U	0.00099 U	0.00099 U	**0.00063 J**	0.00099 U	0.00099 U	0.0013 U	**0.00067 J**	0.00099 U	0.00099 U	0.00098 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	
Hexachlorobenzene	**0.0010**	µg/L	0.0098 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0098 U	0.0099 U	0.0099 U	0.0098 U	0.0099 U	0.0099 U	0.0099 U	0.0099 U	
Isodrin	**NE**	µg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	
Lindane (Gamma-BHC)	**0.13**	µg/L	0.00049 U	**0.00063**	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00082 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
Methoxychlor	**0.020**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	
Mirex	**0.0010**	µg/L	0.000090 U	0.000099 U	**0.000095 J**	0.00099 U	0.000096 U	0.00099 U	0.00011 U	0.000099 U	0.00099 U	0.00011 U	0.00099 U	0.00099 U	0.00098 U	**0.00010 J**	0.00099 U	**0.00011 J**	0.00099 U	
Octachlorostyrene	**NE**	µg/L	0.00098 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.00098 U	0.00099 U	0.00099 U	0.00098 U	0.00099 U	0.00099 U	**0.00050 J**	0.00099 U	
trans-Nonachlor	**NE**	µg/L	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	0.00049 U	**0.00012 J**	0.00050 U	**0.00015 J**	0.00050 U	
alpha-Chlordane (cis)	**0.00050**	µg/L	**0.00028 J**	**0.00065**	0.00050 U	0.00050 U	0.00050 U	**0.00042 J**	0.00050 U	0.00050 U	**0.00090**	**0.00032 J**	0.00050 U	0.00050 U	0.00049 U	**0.00020 J**	0.00050 U	0.00050 U	0.00050 U	
gamma-Chlordane	**0.00050**	µg/L	0.00049 U	0.00063 U	0.00050 U	0.00050 U	0.00050 U	**0.00047 J**	**0.00028 J**	0.00050 U	**0.00084**	**0.00037 J**	0.00050 U	0.00050 U	0.00049 U	0.00050 U	0.00050 U	**0.00021 J**	0.00050 U	
Chlordane (Total)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Total Metals																				
Arsenic	**5.0**	µg/L	**1.6**	**1.0**	**10.6**	**1.4**	**4**	**6.1**	2 U	**1.7**	**0.9**	**3.7**	0.5 U	**1**	**4.9**	**5**	**2**	**8.1 J**	**2.4 J**	
Cadmium	**7.9**	µg/L	0.2 U	0.1 U	0.5 U	0.5 U	0.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.2 U	0.2 U	0.5 U	0.5 U	0.2 U	0.2 U	0.2 U	
Chromium	**27**	µg/L	**1**	**2**	2 U	**3**	2 U	0.5 U	2 U	0.5 U	1 U	**1.0**	1 U	1 U	2 U	**6.2**	**2**	**2**	2 U	
Copper	**3.1**	µg/L	1 U	0.5 U	2 U	**3**	2 U	**0.9**	2 U	**5.9**	0.5 U	**1.7**	1 U	1 U	**5**	**7**	1 U	1 U	1 U	
Lead	**8.1**	µg/L	0.2 U	**0.1**	**3.2**	0.5 U	**1.6**	0.1 U	0.5 U	**0.1**	0.1 U	**2.1**	0.2 U	0.2 U	**0.8**	**10.8**	**0.7**	**2.2 J**	**0.5 J**	
Mercury	**0.025**	µg/L	**0.00013 J**	**0.00089 J**	**0.00188**	**0.00259**	**0.00299**	**0.00050 J**	**0.00038 J**	**0.00386**	**0.00134**	**0.0302**	**0.00109**	**0.00125**	**0.0167**	**0.0328**	**0.00151**	**0.00129**	**0.00150**	
Nickel	**8.2**	µg/L	1 U	**1.3**	**4**	**4**	**3**	**1.4**	2 U	**0.5**	**0.8**	**1.4**	**6.1**	**5**	2 U	**4**	5 U	**2**	**3**	
Silver	**1.9**	µg/L	0.5 UJ	0.2 UJ	1 UJ	1 UJ	1 UJ	0.2 UJ	1 UJ	0.2 UJ	0.2 UJ	0.2 U	0.5 U	0.5 U	1 UJ	1 UJ	0.5 U	0.5 UJ	0.5 UJ	
Zinc	**81**	µg/L	10 U	**6**	20 U	20 U	20 U	4 U	20 U	4 U	4 U	**11**	**17**	10 U	20 U	**20**	4 U	**20**	10 U	
Dissolved Metals																				
Arsenic	**5.0**	µg/L	**1.7**	**1.0**	**9.1**	**1.0**	2 U	**5.3**	**2**	**1.5**	**1.0**	**2.3**	**0.9**	1 U	**4.9**	**3.4**	**4**	**9.6 J**	**2.4 J**	
Cadmium	**7.9**	µg/L	0.2 U	0.1 U	0.2 U	0.2 U	0.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.5 U	0.2 U	0.2 U	
Chromium	**27**	µg/L	1 U	**2**	**1**	**2**	2 U	0.5 U	2 U	0.5 U	2 U	0.5 U	1 U	1 U	1 U	**4**	2 U	**2**	**2**	
Copper	**3.1**	µg/L	1 U	0.5 U	**0.5**	0.5 U	2 U	**0.6**	2 U	**5.9**	0.5 U	**0.8**	1 U	1 U	**0.9**	0.5 U	5 U	1 U	0.5 U	
Lead	**8.1**	µg/L	0.2 U	0.1 U	**1.8**	0.2 U	0.5 U	0.1 U	0.5 U	0.1 U	0.1 U	**0.2**	0.2 U	0.2 U	0.2 U	0.2 U	1 U	**1.8 J**	0.2 UJ	
Mercury	**0.025**	µg/L	**0.00022 J**	**0.00079 J**	**0.00083 J**	**0.00041 J**	**0.00023 J**	**0.00025 J**	**0.00028 J**	**0.00376**	**0.00076 J**	**0.00223**	**0.00080 J**	**0.00038 J**	**0.00367**	**0.00438**	**0.00043**	**0.00090 J**	**0.00060 J**	
Nickel	**8.2**	µg/L	**5**	**3.2**	**5.8**	**2.4**	**5**	**2.7**	**4**	**0.6**	**0.9**	**1.0**	**4.8**	2 U	**4.3**	**1.4**	5 U	**3**	**2.9**	
Silver	**1.9**	µg/L	0.5 UJ	0.2 UJ	0.5 UJ	0.5 UJ	1 UJ	0.2 UJ	1 UJ	0.2 UJ	0.2 UJ	0.2 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	1 U	0.5 UJ	0.5 UJ	
Zinc	**81**	µg/L	10 U	4 U	10 U	10 U	20 U	4 U	20 U	4 U	4 U	4 U	**5**	10 U	10 U	10 U	4 U	10 U	10 U	

Table G-6

RI Groundwater Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

		Sampling Event:	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_3	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4
		Location ID:	MW-2R	SEEP-1	SP-1	SP-1	DMC*MW-01	DMC*MW-03	DMC*MW-04	DMC*MW-05	DMC*MW-08	DMC*MW-09	DMC*MW-10	DMC*MW-11	DMC*MW-12	MW-13	MW-14	MW-15	MW-16
		Sample ID:	MW-2R-031814	GEI-SEEP-1-032014	DUP-SP-1-032014	GEI-SP1-032014	MW-1-71514	MW-3-71614	MW-4-71614	MW-5-71714	MW-8-140714	MW-9-140714	MW-10-71514	MW-11-71414	MW-12-71514	MW-13-140714	MW-14-140714	MW-15-71514	MW-16-71714
		Date Sampled:	03/18/14	03/20/14	03/20/14	03/20/14	07/15/14	07/16/14	07/16/14	07/17/14	07/14/14	07/14/14	07/15/14	07/14/14	07/15/14	07/14/14	07/14/14	07/15/14	07/17/14
Parameter	**Screening Level**	**Units**																	
Polychlorinated Biphenyls (PCBs)																			
PCB-Aroclor 1242	**NE**	µg/L	0.015 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
PCB-Aroclor 1248	**NE**	µg/L	0.010 U	**0.26**	**0.011**	**0.0090 J**	0.010 U	0.010 U	0.015 U	0.010 U	0.010 U	**0.013**	**0.015**	0.010 U	**0.015**	**0.018**	0.010 U	0.010 U	0.010 U
PCB-Aroclor 1254	**0.010**	µg/L	0.010 U	**0.22**	**0.014**	**0.012**	0.010 U	**0.0090 J**	**0.030**	**0.0080 J**	**0.0060 J**	**0.024**	**0.014**	**0.0080 J**	**0.014**	**0.024**	0.010 U	**0.0080 NJ**	**0.011**
PCB-Aroclor 1260	**NE**	µg/L	**0.0070 J**	**0.17**	**0.013**	**0.011**	0.010 U	0.010 U	**0.025**	0.010 U	0.010 U	**0.0080 J**	0.010 U	0.010 U	0.010 U	**0.010**	0.010 U	0.010 U	0.010 U
Total PCBs	**0.010**	µg/L	**0.007**	**0.65**	**0.038 T**	**0.032**	0.01 U	**0.009**	**0.055**	**0.008**	**0.006**	**0.045**	**0.029**	**0.008**	**0.029**	**0.052**	0.01 U	**0.008**	**0.011**
Pesticides																			
2,4'-DDD	**0.00050**	µg/L	0.00050 U	**0.03**	**0.00032 J**	**0.00039 J**	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	**0.00018 J**	**0.00072**	0.00050 U	0.0005 U	**0.00019 J**
2,4'-DDE	**0.00050**	µg/L	0.00050 U	**0.0047**	**0.00015 J**	**0.00025 J**	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
2,4'-DDT	**0.00050**	µg/L	0.00050 U	**0.0020**	0.00050 U	0.00050 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
4,4'-DDD	**0.00050**	µg/L	**0.00023 J**	**0.1**	**0.0010**	**0.0012**	0.0005 U	0.0005 U	**0.0012**	0.0005 U	0.00050 U	**0.00022 J**	**0.00025 J**	0.00050 U	**0.00053**	**0.0028**	0.00050 U	0.0005 U	**0.00073**
4,4'-DDE	**0.00050**	µg/L	**0.00012 J**	**0.069**	**0.0027**	**0.0026**	0.0005 U	0.0005 U	**0.001**	0.0005 U	**0.000091 J**	**0.00067**	**0.00047 J**	**0.00015 J**	**0.00026 J**	**0.0012**	**0.00011 J**	**0.00013 J**	**0.00059**
4,4'-DDT	**0.00050**	µg/L	0.00050 U	**0.0077**	**0.00068**	**0.00043 J**	0.0005 U	0.0005 U	**0.00038 J**	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Aldrin	**0.0010**	µg/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0010 U	–	0.001 U	0.0010 U	0.001 U	0.0010 U	0.0010 U	0.001 U	0.001 U
Alpha-BHC	**0.0010**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	**0.00020 J**	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Beta-BHC	**0.0014**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Chlorpyrifos	**0.0056**	µg/L	0.00050 U	0.00050 U	0.00050 U	**0.00021 J**	0.0005 U	0.00049 UJ	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.00049 UJ	0.00050 U	0.0005 U	**0.00057**	0.00050 U	0.0005 U	0.0005 U
cis-Nonachlor	**NE**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Delta-BHC	**NE**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Dieldrin	**0.0050**	µg/L	0.0050 U	**0.0051**	**0.0046 J**	**0.0040 J**	0.005 U	0.005 U	0.0049 U	0.005 U	0.0050 U	0.0050 U	0.005 U	0.0050 U	0.005 U	0.0050 U	0.0050 U	0.005 U	0.005 U
Endosulfan II	**0.0087**	µg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0020 U	0.0020 U	0.002 U	0.0020 U	0.002 U	0.0020 U	0.0020 U	0.002 U	0.002 U
Endosulfan Sulfate	**10**	µg/L	0.00050 U	**0.00081**	0.00050 U	**0.00015 J**	0.0005 U	0.0005 U	**0.00051**	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Endrin	**0.0020**	µg/L	0.0020 U	0.0020 U	0.0022 U	0.0020 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0020 U	0.0020 U	0.002 U	0.0020 U	0.002 U	**0.00082 J**	0.0020 U	0.002 U	**0.0012 J**
Endrin Ketone	**NE**	µg/L	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.001 U	0.00099 U	0.00098 U	0.00099 U	0.0010 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	**0.00068 J**	0.00099 U	0.00099 U	0.00099 U
Heptachlor	**0.0010**	µg/L	**0.00018 J**	**0.00023 J**	0.00099 U	**0.00013 J**	0.00012 U	0.00099 U	**0.00016 J**	0.00099 U	0.0010 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U
Heptachlor Epoxide	**0.0010**	µg/L	0.00099 U	**0.0013**	**0.00076 J**	0.00099 U	0.001 U	0.00099 U	0.00098 U	0.00099 U	0.0010 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U
Hexachlorobenzene	**0.0010**	µg/L	0.0099 U	0.0099 U	0.0099 U	0.0099 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Isodrin	**NE**	µg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0020 U	–	0.002 U	0.0020 U	0.002 U	0.0020 U	0.0020 U	0.002 U	0.002 U
Lindane (Gamma-BHC)	**0.13**	µg/L	0.00050 U	0.0013 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Methoxychlor	**0.020**	µg/L	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U	**0.0011**	0.0005 U	**0.00016 J**	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Mirex	**0.0010**	µg/L	**0.000090 J**	0.000085 U	0.00010 U	0.00024 U	0.001 U	0.00099 U	**0.00011 J**	0.00099 U	0.0010 U	**0.000099 J**	0.00099 U	**0.00011 J**	0.00099 U	**0.00013 J**	0.00099 U	0.00099 U	0.00099 U
Octachlorostyrene	**NE**	µg/L	0.00099 U	0.00099 U	0.00099 U	0.00099 U	0.001 U	0.00099 U	0.00098 U	0.00099 U	0.0010 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.0010 U	0.00099 U	0.00099 U	0.00099 U
trans-Nonachlor	**NE**	µg/L	0.00050 U	**0.0016**	0.00050 U	0.00050 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
alpha-Chlordane (cis)	**0.00050**	µg/L	0.00050 U	**0.0048**	**0.00050 J**	**0.00057**	0.0005 U	0.0005 U	**0.00021 J**	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	**0.00019 J**	0.00050 U	0.0005 U	0.0005 U
gamma-Chlordane	**0.00050**	µg/L	0.00050 U	**0.0058**	**0.00043 J**	0.00086 U	0.0005 U	0.0005 U	0.00049 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.00050 U	0.0005 U	0.00050 U	0.00050 U	0.0005 U	0.0005 U
Chlordane (Total)	**NE**	µg/L	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Metals																			
Arsenic	**5.0**	µg/L	**1.4**	**1.7**	**6.4**	**5.9**	1 U	**1.2**	**7.1**	**1.8**	**7**	**9**	2 U	**5**	**1.2**	**6**	**5**	2 U	**2.0**
Cadmium	**7.9**	µg/L	0.2 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	1 U	1 U	0.5 U	1 U	0.2 U	1 U	1 U	0.5 U	0.1 U
Chromium	**27**	µg/L	**2**	**3.3**	**0.7 J**	**1.4 J**	1 U	2 U	2 U	**4**	5 U	5 U	2 U	5 U	1 U	5 U	5 U	2 U	**3**
Copper	**3.1**	µg/L	**1**	**13.1**	**6.4**	**6.9**	1 U	2 U	2 U	1 U	5 U	5 U	2 U	**6**	**1**	5 U	5 U	2 U	**2**
Lead	**8.1**	µg/L	0.2 U	**14.0**	**2.3 J**	**3.0 J**	0.2 U	0.1 UJ	**0.9 J**	0.2 U	1 U	1 U	0.5 U	1 U	**0.4**	1 U	1 U	0.5 U	**2.3**
Mercury	**0.025**	µg/L	**0.00107**	**0.0180**	**0.00965 J**	**0.0127 J**	**0.00026 J**	**0.00058**	**0.00144**	**0.00116**	**0.00016 J**	**0.00038 J**	**0.00027 J**	**0.00182**	**0.00357**	**0.00703**	**0.00155**	**0.00271**	**0.0123**
Nickel	**8.2**	µg/L	5 U	**2.5**	**0.9**	**1.1**	**1**	**1.2**	**2.5**	**2.1**	5 U	**15**	**4**	**10**	**1**	**8**	5 U	**6**	**1.5**
Silver	**1.9**	µg/L	0.5 U	0.2 U	0.2 U	0.2 U	0.5 U	0.2 UJ	0.2 UJ	0.2 U	2 U	2 U	1 U	2 U	0.5 U	2 U	2 U	1 U	0.2 U
Zinc	**81**	µg/L	4 U	**420**	**7**	**8**	10 U	4 U	4 U	10 U	40 U	40 U	20 U	40 U	10 U	40 U	40 U	20 U	10 U
Dissolved Metals																			
Arsenic	**5.0**	µg/L	**3**	**1.8**	**5.9**	**6.2**	1 U	**1.1**	**6.2**	**1.1**	5 U	5 U	2 U	**5**	**1.1**	5 U	**3**	2 U	**1.8**
Cadmium	**7.9**	µg/L	0.2 U	0.1 U	0.1 U	0.1 U	0.2 U	0.1 U	0.1 U	0.1 U	1 U	1 U	0.5 U	1 U	0.2 U	1 U	1 U	0.5 U	0.1 U
Chromium	**27**	µg/L	2 U	**1.5**	0.5 U	**0.6**	1 U	2 U	2 U	**3**	5 U	5 U	2 U	5 U	1 U	5 U	5 U	2 U	2 U
Copper	**3.1**	µg/L	1 U	**4.3**	**4.6**	**4.8**	1 U	2 U	2 U	1 U	5 U	5 U	2 U	**9**	1 U	5 U	5 U	2 U	1 U
Lead	**8.1**	µg/L	0.2 U	**0.7**	**0.3 J**	**0.2 J**	0.2 U	0.5 U	**0.6**	0.2 U	1 U	1 U	0.5 U	1 U	0.2 U	1 U	1 U	0.5 U	**0.9**
Mercury	**0.025**	µg/L	**0.00029 J**	**0.00243**	**0.00130 J**	**0.00776 J**	**0.00024 J**	**0.00038 J**	**0.00062**	**0.00064**	**0.00010 J**	**0.00025 J**	**0.00031 J**	**0.00241**	**0.00065**	**0.00173**	**0.00120**	**0.00026 J**	**0.00347**
Nickel	**8.2**	µg/L	5 U	**2.0**	**0.8 J**	**3.0 J**	1 U	**1.1**	**2.5**	**2.0**	5 U	**18**	**4**	**11**	1 U	**10**	**6**	**6**	**1.2**
Silver	**1.9**	µg/L	0.5 U	0.2 U	0.2 U	0.2 U	0.5 U	0.2 UJ	0.2 UJ	0.2 U	2 U	2 U	1 U	2 U	0.5 U	2 U	2 U	1 U	0.2 U
Zinc	**81**	µg/L	4 U	**24**	4 U	**5**	10 U	20 U	20 U	10 U	40 U	40 U	20 U	40 U	10 U	40 U	40 U	20 U	10 U

Table G-6

RI Groundwater Analytical Data - PCBs, Pesticides and Metals Results

7100 1st Avenue South Site

Seattle, Washington

			Sampling Event:	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	RI/FS_RND_4	EIM_FS2154	EIM_FS2154	EIM_FS2154	EIM_FS2154	EIM_FS2154	EIM_FS2154	EIM_FS2154
			Location ID:	MW-17	MW-18	MW-18	MW-19	MW-2R	SEEP-1	SEEP-1	SP-1	EAA2-SEEP-1	2154DOF-SEEP1	2154-MWA	2154-MWA	2154-MWB	2154-MWB	2154-MWC	2154-MWC
			Sample ID:	MW-17-71614	MW-18-71614	MW-18-DUP-71614	MW-19-71614	MW-2R-71714	SEEP-1-71414	SEEP-1-DUP-71414	SP-1-71414	SEEP-1	S-SEEP1-GW-0705	DMCMWA-GW-112	S-MWA-GW-03301	DMCMWB-GW-112	S-MWB-GW-03301	DMCMWC-GW-112	S-MWC-GW-033016
			Date Sampled:	07/16/14	07/16/14	07/16/14	07/16/14	07/17/14	07/14/14	07/14/14	07/14/14	05/04/07	07/05/12	11/24/15	03/30/16	11/24/15	03/30/16	11/24/15	03/30/16
Parameter	**Screening Level**	**Units**																	
Polychlorinated Biphenyls (PCBs)																			
PCB-Aroclor 1242	**NE**	µg/L	0.010 U	0.010 U	0.010 U	0.015 U	0.010 U	0.010 U	0.010 U	0.010 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
PCB-Aroclor 1248	**NE**	µg/L	**0.42**	0.010 U	0.010 U	0.010 U	0.015 U	0.25 U	0.25 U	**0.013**	0.02 U	**0.025 J**	**0.18**	**0.083**	**0.02**	0.01 U	**0.012**	0.012 U
PCB-Aroclor 1254	**0.010**	µg/L	**0.48**	**0.010 J**	**0.010 J**	0.010 U	0.025 U	**0.40**	**0.34**	**0.018**	0.02 U	**0.075 J**	**0.29**	**0.14**	**0.02**	**0.018**	**0.019 J**	**0.016**
PCB-Aroclor 1260	**NE**	µg/L	**0.22**	0.010 U	0.010 U	0.010 U	0.010 U	**0.15**	**0.13**	**0.014**	**0.5**	0.01 U	**0.14**	**0.067**	**0.009 J**	**0.008 J**	0.01 U	**0.005 J**
Total PCBs	**0.010**	µg/L	**1.12**	**0.01**	**0.01 T**	0.015 U	0.025 U	**0.55**	**0.47 T**	**0.045**	**0.5**	**0.1**	**0.61**	**0.29**	**0.049**	**0.026**	**0.031**	**0.021**
Pesticides																			
2,4'-DDD	**0.00050**	µg/L	**0.002**	**0.00011 J**	0.0005 U	0.0005 U	0.00049 U	**0.015 J**	**0.17 J**	**0.00041 J**	**0.016 J**	–	–	–	–	–	–	–	–
2,4'-DDE	**0.00050**	µg/L	**0.00043 J**	0.00049 U	0.0005 U	0.0005 U	0.00049 U	**0.0037 J**	**0.05 J**	0.00050 U	0.013 U	–	–	–	–	–	–	–	–
2,4'-DDT	**0.00050**	µg/L	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.00049 U	**0.00038 J**	**0.0063 J**	0.00050 U	0.011 U	–	–	–	–	–	–	–	–
4,4'-DDD	**0.00050**	µg/L	**0.0092**	**0.00052**	**0.0009**	**0.00044 J**	**0.00097**	**0.031 J**	**0.42 J**	**0.0011**	**0.013 J**	0.1 U	**0.14**	**0.11 J**	**0.0077 J**	0.0012 U	0.0025 U	0.0012 U	
4,4'-DDE	**0.00050**	µg/L	**0.0053**	**0.00035 J**	**0.00059**	**0.00078**	**0.00065**	**0.042 J**	**0.58 J**	**0.0019**	**0.016**	0.1 U	**0.039**	**0.03**	**0.0031**	0.0012 U	0.0025 U	0.0012 U	
4,4'-DDT	**0.00050**	µg/L	**0.00077**	0.00049 U	0.0005 U	**0.00055**	0.00049 U	**0.0017 J**	**0.025 J**	0.00050 U	**0.09**	0.1 U	0.0076 U	0.0062 U	0.0017 U	0.0012 U	0.0025 U	0.0012 U	
Aldrin	**0.0010**	µg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	0.0010 U	0.00053 U	0.05 U	0.0031 U	0.0031 U	0.00062 U	0.00062 U	0.0012 U	0.00062 U	
Alpha-BHC	**0.0010**	µg/L	**0.0015 J**	0.00049 U	0.0005 U	0.00094 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	–	0.05 U	0.0038 U	0.0058 U	0.0019 U	0.0048 U	0.0022 U	0.00062 U	
Beta-BHC	**0.0014**	µg/L	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	–	0.05 U	0.0036 U	0.0031 U	0.0023 U	0.0088 U	0.0012 U	0.00062 U	
Chlorpyrifos	**0.0056**	µg/L	0.0005 U	0.00049 UJ	0.0005 U	0.0005 U	0.00049 U	0.00050 U	0.00050 U	0.00075 U	–	–	–	–	–	–	–	–	
cis-Nonachlor	**NE**	µg/L	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.00049 U	0.00050 UJ	**0.0020 J**	0.00050 U	–	–	–	–	–	–	–	–	
Delta-BHC	**NE**	µg/L	**0.00099 J**	0.00049 U	0.0005 U	0.00064 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	–	0.05 U	0.0031 U	0.0031 U	0.00062 U	0.00062 U	0.0012 U	0.00062 U	
Dieldrin	**0.0050**	µg/L	**0.0027 J**	0.0049 U	0.005 U	**0.00075 J**	0.0049 U	**0.011 J**	**0.043 J**	**0.0031 J**	0.00053 U	0.1 U	0.0062 U	0.0062 U	0.0016 U	0.0066 U	0.0025 U	0.0012 U	
Endosulfan II	**0.0087**	µg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0020 UJ	**0.034 J**	0.0020 U	–	0.1 U	0.0062 U	0.0062 U	0.0012 U	0.0012 U	0.0025 U	0.0023 U	
Endosulfan Sulfate	**10**	µg/L	**0.0011**	0.00049 U	0.0005 U	**0.00083**	0.00049 U	**0.00065**	0.00072 U	0.00050 U	–	0.1 U	0.0062 U	0.0062 U	0.0012 U	0.0012 U	0.0025 U	0.0012 U	
Endrin	**0.0020**	µg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0021 U	0.0020 U	0.0020 U	–	0.1 U	0.0062 U	0.0062 U	0.0012 U	0.0012 U	0.0025 U	0.0012 U	
Endrin Ketone	**NE**	µg/L	0.0021 U	0.00098 U	0.00099 U	0.0015 U	0.00097 U	0.00099 U	0.00099 U	0.0010 U	–	0.1 U	0.0062 U	0.0062 U	0.0012 U	0.0012 U	0.0025 U	0.0012 U	
Heptachlor	**0.0010**	µg/L	**0.00034 J**	0.00098 U	0.00099 U	**0.00022 J**	0.00097 U	0.00099 U	0.00099 U	**0.00013 J**	0.00053 U	0.05 U	0.0031 U	0.0031 U	0.00064 U	0.0019 U	0.0012 U	0.00062 U	
Heptachlor Epoxide	**0.0010**	µg/L	**0.00097 J**	0.00098 U	0.00099 U	**0.00057 J**	0.00097 U	0.00099 U	0.00099 U	0.0010 U	–	0.05 U	0.0031 U	0.0031 U	0.00062 U	0.00062 U	0.0015 U	0.00062 U	
Hexachlorobenzene	**0.0010**	µg/L	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.00049 U	**0.00046 J**	**0.0023 J**	**0.00050 J**	0.23 U	0.05 U	0.0062 U	0.0062 U	0.0012 U	**0.0021**	0.0025 U	0.0012 U	
Isodrin	**NE**	µg/L	0.002 U	0.002 U	0.0079 U	0.002 U	0.002 U	0.0020 U	0.0020 U	0.0020 U	–	–	–	–	–	–	–	–	
Lindane (Gamma-BHC)	**0.13**	µg/L	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.00049 U	0.00050 U	0.00050 U	0.00050 U	0.00053 U	0.05 U	0.0031 U	0.0031 U	0.00062 U	0.00062 U	0.0012 U	0.00062 U	
Methoxychlor	**0.020**	µg/L	0.0018 U	0.00049 U	0.0005 U	**0.0014**	0.00049 U	0.00050 U	0.00050 U	0.00050 U	–	0.5 U	0.031 U	0.031 U	0.0062 U	0.0062 U	0.012 U	0.0062 U	
Mirex	**0.0010**	µg/L	0.00099 U	0.00098 U	0.00099 U	0.00099 U	0.00097 U	**0.00013 J**	**0.00019 J**	0.0010 U	–	–	–	–	–	–	–	–	
Octachlorostyrene	**NE**	µg/L	0.00099 U	0.00098 U	0.00099 U	0.00099 U	0.00097 U	0.00099 U	0.00099 U	0.0010 U	–	–	–	–	–	–	–	–	
trans-Nonachlor	**NE**	µg/L	0.0005 U	0.00049 U	0.0005 U	0.0005 U	0.00049 U	**0.00094 J**	**0.0095 J**	0.00050 U	–	–	–	–	–	–	–	–	
alpha-Chlordane (cis)	**0.00050**	µg/L	**0.00069**	0.00049 U	0.0005 U	**0.00024 J**	0.00049 U	**0.0031**	**0.024**	0.00050 U	–	0.05 U	0.0031 U	0.0031 U	0.00062 U	0.00062 U	0.019 U	0.00062 U	
gamma-Chlordane	**0.00050**	µg/L	**0.0012**	0.00049 U	0.0005 U	**0.00042 J**	0.00049 U	**0.0040**	**0.035**	**0.00024 J**	–	–	–	–	–	–	–	–	
Chlordane (Total)	**NE**	µg/L	–	–	–	–	–	–	–	–	0.091 U	–	–	–	–	–	–	–	
Total Metals																			
Arsenic	**5.0**	µg/L	**3**	**3.5**	**3.5**	**2.4**	**1.4**	5 U	5 U	5 U	**7.51**	–	–	**8.6**	–	**5**	–	**2**	
Cadmium	**7.9**	µg/L	0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	1 U	1 U	**0.11**	–	–	**0.4**	–	**0.2 J**	–	0.5 U	
Chromium	**27**	µg/L	**7**	2 U	2 U	2 U	2 U	5 U	5 U	5 U	**4.92**	–	–	**30**	–	**5**	–	**4**	
Copper	**3.1**	µg/L	**3**	2 U	2 U	1 U	1 U	**7**	**7**	**8**	**7.14**	–	–	**26**	–	**1.5 J**	–	**3**	
Lead	**8.1**	µg/L	**5.4 J**	**1.7 J**	**1.8 J**	**0.4 J**	**1.4**	**46**	**32**	**2**	**11.8**	–	–	**206**	–	**12.6**	–	**2.4**	
Mercury	**0.025**	µg/L	**0.0142**	**0.00266**	**0.00294**	**0.00205**	**0.00381**	**0.211**	**0.0583**	**0.0109**	0.04 U	–	**0.187**	**0.19**	**0.0327**	**0.014 J**	**0.0136 J**	**0.0266**	
Nickel	**8.2**	µg/L	**4**	**2.5**	**2.6**	2 U	**1.9**	**11**	**11**	**12**	–	–	–	**12**	–	**1.8 J**	–	**1.35 J**	
Silver	**1.9**	µg/L	0.5 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U	2 U	2 U	2 U	**0.04**	–	–	**0.12 J**	–	1 U	–	**0.05 J**	
Zinc	**81**	µg/L	**20**	**5**	4 U	4 U	10 U	**140**	**120**	40 U	**32.3**	–	–	**240**	–	**12.6 J**	–	**8.3 J**	
Dissolved Metals																			
Arsenic	**5.0**	µg/L	**3**	**3.6**	**3.9**	**2.3**	**1.7**	5 U	5 U	5 U	**6.62**	**5**	**3**	**2**	**7.3**	**4.5**	**2**	**1 J**	
Cadmium	**7.9**	µg/L	0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U	1 U	1 U	0.01 U	0.5 U	–	0.1 U	–	**0.02 J**	–	0.5 U	
Chromium	**27**	µg/L	**5**	2 U	2 U	2 U	2 U	5 U	5 U	5 U	**2.71**	2 U	**4.4**	**3**	**8**	**4**	**1.8 J**	**1.6 J**	
Copper	**3.1**	µg/L	1 U	2 U	2 U	2 U	1 U	1 U	5 U	5 U	**6**	**1.81**	2 U	**2.6**	**0.3 J**	**2**	**0.46 J**	**2.35 J**	**1.45 J**
Lead	**8.1**	µg/L	**0.2**	0.1 U	0.1 U	0.1 U	0.5 U	**0.3**	**10**	**9**	1 U	**0.28**	0.2 U	**19.2**	**0.08 J**	**14.4**	**0.12 J**	**2**	**0.15 J**
Mercury	**0.025**	µg/L	**0.00302**	**0.00054**	**0.00039 J**	**0.00047 J**	**0.00149**	**0.0211**	**0.102**	**0.00186**	0.2 U	0.1 U	**0.0165 J**	0.02 U	**0.0153 J**	**0.0066 J**	**0.0164 J**	**0.005 J**	
Nickel	**8.2**	µg/L	**1**	**2.1**	**2.3**	**2.0**	**1.7**	**12**	**11**	**13**	–	**4**	**1.4**	**0.3 J**	**1 J**	**0.7 J**	**1.5 J**	**0.25 J**	
Silver	**1.9**	µg/L	0.5 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U	2 U	2 U	2 U	0.01 U	1 U	–	**0.01 J**	–	0.4 U	–	1 U	
Zinc	**81**	µg/L	10 U	4 U	4 U	20 U	10 U	**80**	**80**	40 U	**6.3**	20 U	**12**	4 U	**10**	**3.24 J**	**5.2 J**	**15.4 J**	

Notes:

NE = a screening level was not established for this analyte (see Table 8)

J = estimated value; T = summed result

µg/L = micrograms per liter; U = not detected

Bold = detected value

Yellow Fill indicates detected result > the groundwater screening level

Blue Fill indicates not detected with reporting limit > the groundwater screening level

Table G-7

RI Stormwater and Surface Water Analytical Data

7100 1st Avenue South Site

Seattle, Washington

Media	Stormwater	Stormwater	Stormwater	Stormwater	Surface Water	Surface Water	Surface Water
Sample Location[1]	SW-IN	SW-IN	SW-OUT	SW-OUT	LDW	LDW	LDW
Sample Date	9/3/2013	3/17/2014	9/3/2013	3/17/2014	03/17/2014	09/03/2013	07/16/2014
Sampled By	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers
Total Petroleum Hydrocarbons (TPH) using EPA Method 8015, NWTPH-G or NWTPH-Dx							
Gasoline-range hydrocarbons	250 U	250 U	250 U	250 U	250 U	250 U	250 U
Diesel-range hydrocarbons	**1,300**	**220**	**400**	100 U	100 U	100 U	100 U
Lube Oil-range Hydrocarbons	**1,600**	**470**	**490**	200 U	200 U	200 U	200 U
Volatile Organic Compounds (VOCs) using EPA Method 8260 or 8021							
1,2,4-Trimethylbenzene	**1.1**	0.20 U	0.20 U	**0.12 J**	0.20 U	**0.31**	0.20 U
1,3,5-Trimethylbenzene	**0.62 J**	0.20 U	0.20 U	0.20 U	0.20 U	**0.11 J**	0.20 U
2-Butanone (MEK)	**2.7 NJ**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	42 UJ	**2.8 J**	4.1 U	5.0 U	5.0 U	3.6 U	4.4 U
Benzene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.21**	0.20 U
Ethylbenzene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.16 J**	0.20 U
n-Propylbenzene	**0.10 J**	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Xylene, m-,p-	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	**0.62**	0.40 U
Xylene, o-	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	**0.38**	0.20 U
Semi-Volatile Organic Compounds (SVOCs) using EPA Method 7270 or 8270							
Bis(2-Ethylhexyl) Phthalate	**0.9 J**	**1.0 J**	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ
Polycyclic Aromatic Hydrocarbons (PAHs) using EPA Method 8270/SIM							
1-Methylnaphthalene	0.010 U	0.010 U	0.010 U	0.010 U	**0.011**	0.010 U	**0.015**
2-Methylnaphthalene	0.010 U	0.010 U	0.010 U	0.010 U	**0.011**	0.010 U	**0.014**
Acenaphthene	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.025**
Anthracene	0.010 U	**0.030 J**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Benzo(ghi)perylene	**0.026**	**0.018**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Fluoranthene	**0.024**	**0.042**	0.010 U	0.010 U	**0.012**	**0.022**	**0.012**
Naphthalene	**0.01**	**0.03**	0.010 U	0.010 U	**0.056**	0.010 U	**0.029**
Phenanthrene	0.010 U	**0.032**	0.010 U	0.010 U	**0.018**	0.010 U	**0.017**
Pyrene	**0.048**	**0.05**	0.010 U	0.010 U	**0.011**	**0.016**	0.010 U
Benzofluoranthenes (Sum)	0.020 U	**0.035**	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Chrysene	**0.027**	**0.031**	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Total cPAH TEQ (ND=0.5RL)	**0.00777 T**	**0.01031 T**	0.00755 UT	0.00755 UT	0.00755 UT	0.00755 UT	0.00755 UT
Polychlorinated Biphenyls (PCBs) using EPA Method 8082							
PCB-aroclor 1254	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	**0.0080 NJ**
Total PCBs	0.01 UT	0.01 UT	0.01 UT	0.01 UT	0.01 UT	0.01 UT	**0.008 T**
Pesticides using EPA Method 8081A							
4,4'-DDE	**0.00016 J**	0.00050 U	0.00049 U	0.00050 U	**0.00018 J**	0.00050 U	0.00049 U
4,4'-DDT	0.00049 U	0.00050 U	0.00049 U	0.00050 U	**0.00016 J**	0.00050 U	0.00049 U
Chlorpyrifos	0.00049 U	0.00050 U	0.00049 U	**0.00022 J**	**0.00041 J**	0.00050 U	0.00049 U
Endosulfan Sulfate	0.00049 U	0.00050 U	0.00049 U	0.00050 U	**0.00040 J**	0.00050 U	0.00049 U
Endrin Ketone	0.00097 U	0.00099 U	**0.00048 J**	0.00099 U	0.00097 U	0.00099 U	0.00097 U
Heptachlor	**0.00018 J**	**0.00029 J**	0.00097 U	**0.00022 J**	0.00097 U	0.00099 U	0.00097 U
Heptachlor Epoxide	0.00097 U	0.00099 U	0.00097 U	0.00099 U	0.00097 U	0.00099 U	0.00097 U
Hexachlorobenzene	**0.00033 J**	0.0099 U	0.00049 U	0.0099 U	0.0097 U	0.00050 U	0.00049 U
Lindane (Gamma-BHC)	0.00049 U	**0.0010 J**	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00049 U
Mirex	0.00097 U	**0.00011 J**	0.00097 U	**0.00017 J**	0.00097 U	0.00099 U	0.00097 U
Octachlorostyrene	0.00097 U	0.00099 U	0.00097 U	**0.00038 J**	0.00097 U	0.00099 U	0.00097 U
trans-Nonachlor	**0.00027 J**	**0.00053**	0.00049 U	0.00050 U	**0.00017 J**	0.00050 U	0.00049 U
alpha-Chlordane (cis)	**0.00031 J**	0.00063 U	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00049 U
gamma-Chlordane	0.00049 U	**0.0011**	0.00049 U	0.00050 U	0.00049 U	0.00050 U	0.00049 U

Table G-7

RI Stormwater and Surface Water Analytical Data

7100 1st Avenue South Site

Seattle, Washington

Media	Stormwater	Stormwater	Stormwater	Stormwater	Surface Water	Surface Water	Surface Water
Sample Location[1]	SW-IN	SW-IN	SW-OUT	SW-OUT	LDW	LDW	LDW
Sample Date	9/3/2013	3/17/2014	9/3/2013	3/17/2014	03/17/2014	09/03/2013	07/16/2014
Sampled By	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers	GeoEngineers
Total Metals using EPA Method 200.7/200.8/7470/7471							
Arsenic	**4.5 J**	**0.6 J**	**0.6 J**	0.2 U	**2.1**	**3 J**	2 U
Cadmium	0.1 U	0.2 U	**0.1**	0.5 U	0.2 U	0.5 U	0.5 U
Chromium	**1.4 J**	**2.4 J**	0.5 U	0.5 U	**2**	2 U	2 U
Copper	**13.7**	**16 J**	**7.8**	2 U	**3**	**7**	**6**
Lead	**7.4**	**12.1**	**1.5**	0.5 U	**0.7**	0.5 U	0.5 UJ
Mercury	**0.0115**	**0.00363**	**0.00456**	**0.00033 J**	**0.0095**	**0.00111**	**0.0016**
Nickel	**3.7**	**3 J**	**2.2**	2 U	**2**	**7**	**5**
Silver	0.2 U	0.5 UJ	0.2 U	1 UJ	0.5 UJ	1 U	1 UJ
Zinc	**165**	**180**	**41**	20 U	10 U	20 U	20 U
Dissolved Metals using EPA Method 200.7/200.8/7470/7471							
Arsenic	**4.0 J**	0.2 U	**0.4 J**	0.2 U	**1.4**	**1 J**	2 U
Cadmium	0.1 U	0.2 U	0.1 U	0.2 U	0.2 U	0.5 U	0.5 U
Chromium	0.5 U	0.5 U	0.5 U	1 U	1 U	2 U	2 U
Copper	7.0 J	**3**	**3.7**	**0.7**	**2**	**7**	**6**
Lead	**0.9 J**	**0.6**	**0.2**	0.2 U	0.2 U	0.5 U	0.5 U
Mercury	**0.00399**	**0.00086 J**	**0.00279**	**0.00024 J**	**0.00196**	**0.00081 J**	**0.00058**
Nickel	**3.1 J**	**3 J**	**1.9**	**1.5**	**3**	**7**	**5**
Silver	0.2 U	0.5 UJ	0.2 U	0.5 UJ	0.5 UJ	1 U	1 UJ
Zinc	**68 J**	**50**	**26**	**10**	10 U	20 U	20 U

Notes:

[1]Sample locations are shown on Figure 10.

EPA = Environmental Protection Agency

J = estimated value

N = tentative identification

T = summed result

U = not detected

Bold = detected value

Table G-8

Summary of Outfall Sediment Sample Chemical Analytical Data

7100 1st Avenue South Site

Seattle, Washington

Sample Location[1] Sample Depth (feet bgs) Sample Date	Sediment Screening Level		SED-OF-1 0 to 10 cm 9/3/2013	
	Value	Units	Value	Units[2]
Total Petroleum Hydrocarbons (TPH) using EPA Method 8015, NWTPH-G or NWTPH-Dx				
Gasoline-range hydrocarbons	NE	NE	9.8 U	mg/kg
Volatile Organic Compounds (VOCs) using EPA Method 8260 or 8021				
2-Butanone (MEK)	NE	NE	**0.01**	mg/kg
Acetone	NE	NE	**0.084**	mg/kg
Benzene	NE	NE	**0.0016**	mg/kg
Carbon Disulfide	NE	NE	**0.013**	mg/kg
Chloromethane	NE	NE	**0.0017**	mg/kg
Toluene	NE	NE	**0.0010 J**	mg/kg
Semi-Volatile Organic Compounds (SVOCs) using EPA Method 7270 or 8270				
Bis(2-Ethylhexyl) Phthalate	47	mg/kg OC	**3.1**	mg/kg OC
Butyl benzyl phthalate	4.9	mg/kg OC	**0.83 J**	mg/kg OC
Carbazole	NE	mg/kg	**0.013 J**	mg/kg
Phenol	0.42	mg/kg	**0.014 J**	mg/kg
Polycyclic Aromatic Hydrocarbons (PAHs) using EPA Method 8270/SIM				
1-Methylnaphthalene	NE	mg/kg	**0.032**	mg/kg
2-Methylnaphthalene	38	mg/kg OC	**1.6**	mg/kg OC
Acenaphthene	16	mg/kg OC	**0.40**	mg/kg OC
Acenaphthylene	66	mg/kg OC	**0.24**	mg/kg OC
Anthracene	220	mg/kg OC	**0.57**	mg/kg OC
Benzo(ghi)perylene	31	mg/kg OC	**2.4**	mg/kg OC
Dibenzofuran	NE	mg/kg	**0.019**	mg/kg
Fluoranthene	160	mg/kg OC	**3.3**	mg/kg OC
Fluorene	23	mg/kg OC	**0.28**	mg/kg OC
Naphthalene	99	mg/kg OC	**1.5**	mg/kg OC
Phenanthrene	100	mg/kg OC	**2.7**	mg/kg OC
Pyrene	1,000	mg/kg OC	**3.3**	mg/kg OC
Benzo(a)pyrene	99	mg/kg OC	**1.6**	mg/kg OC
Benzo(a)anthracene	110	mg/kg OC	**1.5**	mg/kg OC
Benzo(b)fluoranthene	230	mg/kg OC	**1.9**	mg/kg OC
Benzo(k)fluoranthene	230	mg/kg OC	**0.96**	mg/kg OC
Benzofluoranthenes (Sum)	230	mg/kg OC	**3.7**	mg/kg OC
Chrysene	110	mg/kg OC	**2.2**	mg/kg OC
Dibenzo(a,h)anthracene	12	mg/kg OC	**1.4**	mg/kg OC
Indeno(1,2,3-cd)pyrene	34	mg/kg OC	**2.1**	mg/kg OC
Total cPAH TEQ (ND=0.5RL)	0.095	mg/kg	**0.057 T**	mg/kg
Polychlorinated Biphenyls (PCBs) using EPA Method 8082				
PCB-aroclor 1254	0.51	mg/kg	**0.12 J**	mg/kg
PCB-aroclor 1260	0.51	mg/kg	**0.057**	mg/kg
Total PCBs	0.004	mg/kg	**0.177 T**	mg/kg
Pesticides using EPA Method 8081A				
2,4'-DDD	8.3	mg/kg	**0.00044**	mg/kg
2,4'-DDT	5.9	mg/kg	**0.00014**	mg/kg
4,4'-DDD	8.3	mg/kg	**0.0014**	mg/kg
4,4'-DDE	5.9	mg/kg	**0.00047**	mg/kg
4,4'-DDT	5.9	mg/kg	**0.00069 J**	mg/kg
Aldrin	0.072	mg/kg	**0.000083 J**	mg/kg
Dieldrin	0.077	mg/kg	**0.00035 J**	mg/kg
Hexachlorobenzene	0.38	mg/kg OC	**0.00029**	mg/kg OC
trans-Nonachlor	NE	NE	**0.00016**	NE
alpha-Chlordane (cis)	5.2	mg/kg	**0.00021**	mg/kg
gamma-Chlordane	5.2	mg/kg	**0.00026**	mg/kg
Metals using EPA Method 200.7/200.8/7470/7471				
Arsenic	7.0	mg/kg	**5.2 J**	mg/kg
Cadmium	5.1	mg/kg	**0.4 J**	mg/kg
Chromium	260	mg/kg	**23 J**	mg/kg
Copper	390	mg/kg	**50.8**	mg/kg
Lead	450	mg/kg	**118 J**	mg/kg
Mercury	0.41	mg/kg	**0.11 J**	mg/kg
Nickel	8100	mg/kg	**25.3**	mg/kg
Silver	6.1	mg/kg	0.2 U	mg/kg
Zinc	410	mg/kg	**170**	mg/kg

Notes:

[1]Sample location shown on Figure 9.

[2]Values reported as mg/kg OC were calculated by dividing the dry weight values reported by the laboratory by the reported foc of 0.023 for this sample.

EPA = Environmental Protection Agency

J = estimated value

mg/kg = milligrams per kilogram

mg/kg OC = milligrams per kilogram normalized to organic carbon

NE = not established

ND = not detected

RL = reporting limit

T = summed result

U = not detected

Bold = detected value

Yellow shading indicates detected result is greater than the preliminary saturated zone cleanup level.

APPENDIX H
RI Laboratory Data Reports (Electronic)

APPENDIX I
RI Laboratory Data Quality Review Reports

GeoEngineers

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Data Validation Report

Project:	7100 1st Avenue South Site (Dock 2 Property) – 2013 Soil Investigation
GEI File No:	00275-015-02
Date:	November 18, 2013

GENERAL

This report presents the results of a United States Environmental Protection Agency (USEPA)-defined Stage 2B validation (USEPA Document 540-R-08-005; USEPA, 2009) of analytical data from the analyses of soil samples obtained from the 7100 1st Avenue South Site (Dock 2 Property) located in Seattle, Washington.

Objective and Quality Control (QC) Elements

The objective of the data quality assessment was to review laboratory analytical procedures and QC results to evaluate whether:

- The samples were analyzed using well-defined and acceptable methods that provide quantitation limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (Appendix B of the Final Work Plan – RI/FS; GeoEngineers, 2013), the laboratory data was reviewed for the following QC elements:

- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Field Duplicates
- Internal Standards
- Instrument Initial Calibration (ICALs)
- Instrument Continuing Calibration (CCALs)
- Miscellaneous

Chemical Analysis Performed

The soil samples obtained during the site remedial investigation sampling event were submitted to Analytical Resources, Incorporated (ARI) of Tukwila, WA for one or more of the following analyses:

- Volatile Organic Compounds (VOCs) by Method SW8260;
- Semi-volatile Organic Compounds (SVOCs) by Method SW8270;
- Polycyclic Aromatic Hydrocarbons (PAHs) by Method SW8270-SIM;
- Polychlorinated biphenyls (PCBs) by Method SW8082;
- Petroleum Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;
- Gas-Range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- BTEX by Method SW8021Mod;
- Metals by Methods SW200.8 and SW7471;
- Total Organic Carbon (TOC) by Method Plumb, 1981; and
- Total Solids (TS) by Method SM2540

ARI subcontracted to ALS Environmental (ALS) of Kelso, WA for one or more of the following analyses:

- Pesticides by High Resolution Mass-Spectrometry (internal laboratory method CAS SOC-PESTMS2); and
- Total Solids (TS) by Method 160.3

ARI and ALS Sample Delivery Groups (SDGs)

The following laboratory SDGs were delivered by ARI (and ALS) and were reviewed by GeoEngineers for the QC elements listed above:

- WW82
- WX38 (K1306935)
- WX42/WX43 (K1306937/K1306933)
- WX47 (K1306932)
- WZ77

DATA QUALITY ASSESSMENT SUMMARY

The results for each of the QC elements are summarized below. The data assessment was performed using guidance in two USEPA documents: USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA, 2010) and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008).

Chain-of-Custody Documentation

Chain-of-custody forms were provided with the laboratory analytical reports. No transcription errors were found and the appropriate signatures were applied. There were no anomalies mentioned in the sample receipt forms, as the samples were transported to the laboratory at the appropriate temperatures of between 2 and 6 degrees Celsius, with the following exceptions:

- SDG WW82: The sample cooler temperatures recorded at the lab were 13.6, 19.4, 15.3, 17.5, 17.1, 21.3, 13.1, 18.2, 17.3, and 14.6 degrees Celsius.
- SDG WX38: The sample cooler temperatures recorded at the lab were 8.4 and 14.8 degrees Celsius.
- SDG WX42: The sample cooler temperatures recorded at the lab were 20.1, 21.1, and 20.4 degrees Celsius.
- SDG WX43: The sample cooler temperatures recorded at the lab were 13.1, 15.1, and 17.5 degrees Celsius.
- SDG WX47: The sample cooler temperatures recorded at the lab were 19.9, 19.7, and 22.1 degrees Celsius.
- SDG WZ77: The sample cooler temperatures recorded at the lab were 13.6, 19.4, 15.3, 17.5, 17.1, 21.3, 13.1, 18.2, 17.3, and 14.6 degrees Celsius.

All sample coolers were received by the laboratory within 24 hours of the sampling event, therefore no qualifiers were required for these outliers.

Holding Times and Sample Preservation

The holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria and sample preservation exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Recommended holding time and sample preservation was met for all analyses, with the following exceptions:

- SDG K1306935: (Pesticides) The 14-day holding time for 4,4'-DDE and 4,4'-DDD in Sample MW-14-30.0 was exceeded by 9 days. The analysis of this sample was initially performed within the recommended holding time, however re-extraction was required because of matrix interference. The positive results for 4,4'-DDE and 4,4'-DDD were qualified as estimated (J) in this sample.
- SDG K1306937: (Pesticides) The 14-day holding time of Sample MW-16-25.0 was exceeded by 8 days. The analysis of this sample was initially performed within the recommended holding time, however re-extraction was required because of matrix interference. The positive results for all target analytes were qualified as estimated (J) in this sample. The reporting limits for all target analytes were qualified as estimated (UJ) in this sample.
- SDG K1306933: (Pesticides) The 14-day holding time for 2,4'-DDE, 4,4'-DDE and 4,4'-DDD in Sample MW-18-27.5 was exceeded by 7 days. The analysis of this sample was initially performed within the recommended holding time, however re-extraction was required because of matrix interference. The positive results for 2,4'-DDE, 4,4'-DDE and 4,4'-DDD were qualified as estimated (J) in this sample.
- SDG WX47: (PAHs) The 14-day holding time of Samples MW-13-25.0, MW-17-30.0, and MW-17-30.0-Dup were exceeded by 7 days. These samples were originally extracted within the holding time, however a re-extraction was required because spike recoveries were out of QC limits. The positive results for all target analytes were qualified as estimated (J) in these samples. The reporting limits for all target analytes were qualified as estimated (UJ) in these samples.
- SDG K1306932: (Pesticides) The 14-day holding time for 4,4'-DDE, 2,4'-DDD, dieldrin, and 4,4'-DDD in Sample MW-17-27.5 was exceeded by 6 days. The analysis of this sample was initially performed within the recommended holding time, however re-extraction was required because of matrix

interference. The positive results for 4,4'-DDE, 2,4'-DDD, dieldrin, and 4,4'-DDD were qualified as estimated (J) in this sample.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added at a known concentration and percent recoveries (%R) are calculated following analysis. All surrogate recoveries for field samples were within the laboratory control limits, with the following exceptions:

- SDG WW82: (BTEX) The %R values for surrogate bromobenzene in Samples DP-10-12.5 and DP-10-12.5-Dup were not recoverable because of sample dilution (20X). The surrogates are added to the sample when it is extracted. If the sample is diluted 10X or more, recovery of the surrogates is often not possible because it is also diluted below the linear calibration range of the instrument. No action was required for these outliers.
- SDG WX42: (SVOCs) The %R values for surrogate d14-p-terphenyl were less than the control limits in Samples MW-19-20.0, HA-3-0.5, and MW-16-30.0. However, the samples were spiked with a total of 3 base-neutral surrogates. In this case, there were at least 2 other surrogates that exhibited %R values that were within their respective control limits. No action was required for these outliers.

  (NWTPH-Dx) The %R value for surrogate o-terphenyl in Sample MW-16-25.0 was not recoverable because of sample dilution (10X). The surrogates are added to the sample when it is extracted. If the sample is diluted 10X or more, recovery of the surrogates is often not possible because it is also diluted below the linear calibration range of the instrument. No action was required for this outlier.
- SDG K1306937: (Pesticides) The %R values for surrogate gamma-BHC-d6 were greater than the control limits in Samples HA-1-0.5 and HA-3-0.5. However, the samples were spiked with 14 additional surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.
- SDG WX47: (PCBs) The %R values for surrogates DCBP and TCMX in Samples MW-13-25.0 and MW-17-27.5 were not recoverable because of sample dilution (50X). The surrogates are added to the sample when it is extracted. If the sample is diluted 10X or more, recovery of the surrogates is often not possible because it is also diluted below the linear calibration range of the instrument. No action was required for these outliers.

  (NWTPH-Dx) The %R value for surrogate o-terphenyl in Sample MW-17-27.5 was not recoverable because of sample dilution (10X). The surrogates are added to the sample when it is extracted. If the sample is diluted 10X or more, recovery of the surrogates is often not possible because it is also diluted below the linear calibration range of the instrument. No action was required for this outlier.
- SDG K1306932: (Pesticides) The %R values for surrogate gamma-BHC-d6 was greater than the control limits in Samples MW-13-25.0 and MW-17-27.5. Additionally, the %R value for surrogate isodrin-13c12 was greater than the control limit in Sample MW-17-27.5. However, the samples were spiked with 13 additional surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.

Method and Trip Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest into project samples. Method blanks were analyzed with each batch of samples, at a frequency of one per twenty samples. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. No method blank detections were reported by the testing laboratory, with the following exceptions:

- SDG WX38: (VOCs) The method blank, MB-071513A, extracted on 7/15/2013 reported a positive concentration for methylene chloride. The positive results for methylene chloride were qualified as non-detected (U) in Samples MW-15-12.5, MW-15-35.0, and MW-14-17.5.
- SDG WX42: (VOCs) The method blank, MB-071913A, extracted on 7/19/2013 reported a positive concentration for methylene chloride. The positive results for methylene chloride were qualified as non-detected (U) in Samples MW-19-12.5, MW-19-12.5-Dup, MW-19-20.0, MW-19-32.5, MW-16-12.5, MW-16-25.0, MW-16-30.0, and Trip Blanks-07102013.
- SDG WX47: (VOCs) The method blank, MB-072313A (sample amount 100 mg), extracted on 7/23/2013 reported a positive concentration for methylene chloride. However, there were no positive results for this target analyte in the associated field sample, MW-17-27.5. No action was required for this outlier.

  The method blank, MB-072313A (sample amount 5.00 g), extracted on 7/23/2013 reported a positive concentration for methylene chloride. The positive results for methylene chloride were qualified as non-detected (U) in the associated field samples, MW-17-30.0 and MW-17-30.0-Dup.

Trip blanks are analyzed to assess whether field sampling or sample transport processes may have introduced measurable concentrations of volatile analytes of interest into project samples. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. After qualification of the method blank, no trip blank detections were reported by the testing laboratory, with the following exceptions:

- SDG WX42: (VOCs) One trip blank (Trip Blanks-07102013) was reported in this SDG. A positive result for acetone was reported. The positive results for acetone were qualified as non-detected (U) in Samples MW-19-12.5, MW-19-12.5-Dup, MW-19-20.0, MW-19-32.5, MW-16-12.5, and MW-16-30.0.
- SDG WX47: (VOCs) One trip blank (Trip Blank-07122013) was reported in this SDG. A positive result for methylene chloride was reported. The positive results for methylene chloride were qualified as non-detected (U) in Samples MW-13-12.5, MW-13-25.0, MW-17-12.5, MW-17-30.0, and MW-17-30.0-Dup.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery (%R) is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the %R from the MS and MSD, the relative percent difference (RPD) is calculated. The %R control limits for MS and

MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the %R/RPD values were within the proper control limits, with the following exceptions:

- SDG WW82: (NWTPH-Gx) The laboratory performed an MS/MSD sample set on Sample DP-10-12.5. The %R value for gasoline-range hydrocarbons was greater than the control limit in the MSD extracted on 7/15/2013. However, the %R value for this target analyte was within the control limit in the corresponding MS. No action was required for this outlier.
- SDG WX38: (SVOCs) The laboratory performed an MS/MSD sample set on Sample MW-15-12.5. The %R and RPD values for 4-chloroaniline, hexachlorocyclopentadiene, 2,4-dinitrophenol, 3,3'-dichlorobenzidine, and aniline were not recovered in the MS/MSD extracted on 7/19/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Sample MW-15-12.5.

  Additionally, the %R values for hexachloroethane and 4,6-dinitro-2-methylphenol were less than the control limits in the same MS/MSD sample set. The reporting limits for hexachloroethane and 4,6-dinitro-2-methylphenol were qualified as estimated (UJ) in Sample MW-15-12.5. Also, in the same MS/MSD sample set, the %R values for 2-nitrophenol and 4-nitroaniline were less than the control limits in the MS. However, the %R values for these target analytes were within the control limits in the corresponding MSD. No action was required for these outliers.

  The RPD was greater than the control limits for hexachloroethane, 2-nitrophenol, 2-nitroaniline, 3-nitroaniline, 2,6-dinitrotoluene, 2,4-dinitrotoluene, 4-nitroaniline, 4,6-dinitro-2-methylphenol, and pyridine in the same MS/MSD sample set. There were no positive results for these target analytes in the parent sample, therefore, no action was required for these outliers.

  (PAHs) The laboratory performed an MS/MSD sample set on Sample MW-15-35.0. The %R values for naphthalene, 2-methylnaphthalene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, benzo(a)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene, and dibenzofuran were less than the control limits in the MS/MSD extracted on 7/19/2013. The positive results for these target analytes were qualified as estimated (J) in Sample MW-15-35.0. Also, in the same MS/MSD sample set, the %R value for acenaphthylene was less than the control limit in the MSD. However, the %R value for this target analyte was within the control limit in the corresponding MS. No action was required for this outlier.

  (Metals) The laboratory performed an MS/MSD sample set on Sample MW-15-12.5. The RPD for cadmium and lead was greater than the control limits in the MS/MSD extracted on 7/15/2013. The positive results for these target analytes were qualified as estimated (J) in Samples MW-15-12.5, MW-15-22.5, MW-15-35.0, MW-14-7.5, MW-14-17.5, and MW-14-30.0.

  (TOC) The laboratory performed an MS/MSD sample set on Sample MW-15-12.5. The %R values for TOC were less than the control limits in the MS/MSD extracted on 7/29/2013. The positive results for TOC were qualified as estimated (J) in Samples MW-15-12.5, MW-15-22.5, MW-15-35.0, MW-14-7.5, MW-14-17.5, and MW-14-30.0.

- SDG K1306935: (Pesticides) The laboratory performed an MS/MSD sample set on Sample MW-14-7.5. The %R and RPD values for endosulfan II were not recovered in the MS/MSD extracted on 7/22/2013. The reporting limit for endosulfan II was qualified as estimated (UJ) in Sample MW-14-7.5.

  Additionally, the %R values for 4,4'-DDE, 2,4'-DDD, and 4,4'-DDD were greater than the control limits in the same MS/MSD sample set. The positive results for these target analytes were qualified as estimated (J) in Sample MW-14-7.5. Also, in the same MS/MSD sample set, the %R value for endosulfan I was greater than the control limit in the MS. However, the %R value for this target analyte was within the control limit in the corresponding MSD. No action was required for this outlier.

- SDG WX42/WX43: (SVOCs) The laboratory performed an MS/MSD sample set on Sample MW-16-30.0. The %R and RPD values for hexachlorocyclopentadiene, 3,3'-dichlorobenzidine, and aniline were not recovered in the MS/MSD extracted on 7/19/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Sample MW-16-30.0.

  Additionally, the %R values for 4-chloroaniline were less than the control limits in the same MS/MSD sample set. The reporting limit for 4-chloroaniline was qualified as estimated (UJ) in Sample MW-16-30.0. Also, in the same MS/MSD sample set, the %R value for 3-nitroaniline was less than the control limit in the MS. However, the %R value for this target analyte was within the control limit in the corresponding MSD. No action was required for this outlier.

  (NWTPH-Gx) The laboratory performed an MS/MSD sample set on Sample MW-18-35.0. The %R values for gasoline-range hydrocarbons were greater than the control limits in the MS/MSD extracted on 7/17/2013. There were no positive results for gasoline-range hydrocarbons in Sample MW-18-35.0, therefore, no action was required for this outlier.

- SDG K1306937: (Pesticides) The laboratory performed an MS/MSD sample set on Sample MW-16-12.5. The %R and RPD values for endosulfan II were not recovered in the MS/MSD extracted on 7/22/2013. The reporting limit for endosulfan II was qualified as estimated (UJ) in Sample MW-16-12.5.

  Additionally, the %R values for 4,4'-DDD and endosulfan I were greater than the control limits in the same MS/MSD sample set. The positive result for 4,4'-DDD was qualified as estimated (J) in Sample MW-16-12.5. There were no positive results for endosulfan I in Sample MW-16-12.5, therefore, no action was required for this outlier. Also, in the same MS/MSD sample set, the %R values for oxychlordane, 4,4'-DDE, and endrin were greater than the control limits in either the MS or MSD. However, the %R values for these target analytes were within the control limits in their corresponding MS or MSD. No action was required for these outliers.

  The laboratory performed an MS/MSD sample set on Sample MW-16-25.0. The %R values for delta-BHC, 4,4'-DDE, 2,4'-DDD, and 4,4'-DDD were less than the control limits in the MS/MSD extracted on 8/1/2013. The positive results for 4,4'-DDE, 2,4'-DDD, and 4,4'-DDD were qualified as estimated (J) in Sample MW-16-25.0. The reporting limit for delta-BHC was qualified as estimated (UJ) in Sample MW-16-25.0. Additionally, in the same MS/MSD sample set, the %R values for endrin and 4,4'-DDT were greater than the control limits in the MSD. However, the %R values for these target analytes were within the control limits in the corresponding MS. No action was required for these outliers.

  Also, the RPD was greater than the control limits for oxychlordane, 4,4'-DDE, endrin, 4,4'-DDD, and 4,4'-DDT in the same MS/MSD sample set. The positive results for 4,4'-DDE and 4,4'-DDD were

qualified as estimated (J) in Sample MW-16-25.0. There were no positive results for oxychlordane, endrin, and 4,4'-DDT in the parent sample, therefore, no action was required for these outliers.

- SDG K1306933: (Pesticides) The laboratory performed an MS/MSD sample set on Sample MW-2R-10.0. The %R and RPD values for endosulfan II were not recovered in the MS/MSD extracted on 7/22/2013. The reporting limit for endosulfan II was qualified as estimated (UJ) in Sample MW-2R-10.0.

  Additionally, the %R values for 4,4'-DDE, 2,4'-DDD, and 4,4'-DDD were greater than the control limits in the same MS/MSD sample set. The positive results for 4,4'-DDE and 4,4'-DDD were qualified as estimated (J) in Sample MW-2R-10.0. Also, in the same MS/MSD sample set, the %R value for endosulfan I was greater than the control limit in the MS. However, the %R value for this target analyte was within the control limit in the corresponding MSD. No action was required for this outlier.

- SDG WX47: (PCBs) The laboratory performed an MS/MSD sample set on Sample MW-13-32.5. The %R value for Aroclor 1260 was less than the control limit in the MS extracted on 7/22/2013. However, the %R value for this target analyte was within the control limit in the corresponding MSD. No action was required for this outlier.

  (Metals) The laboratory performed an MS/MSD sample set on Sample MW-13-12.5. The RPD for mercury was greater than the control limit in the MS/MSD extracted on 7/19/2013. The positive results for mercury were qualified as estimated (J) in Samples MW-13-12.5, MW-13-25.0, MW-13-32.5, MW-17-12.5, MW-17-27.5, MW-17-30.0, and MW-17-30.0-Dup.

- SDG K1306932: (Pesticides) The laboratory performed an MS/MSD sample set on Sample MW-17-12.5. The %R and RPD values for endosulfan II were not recovered in the MS/MSD extracted on 7/22/2013. The reporting limit for endosulfan II was qualified as estimated (UJ) in Sample MW-17-12.5.

  Additionally, the %R values for 4,4'-DDE, 2,4'-DDD, and 4,4'-DDD were greater than the control limits in the same MS/MSD sample set. The positive results for 4,4'-DDE, 2,4'-DDD, and 4,4'-DDD were qualified as estimated (J) in Sample MW-17-12.5. Also, in the same MS/MSD sample set, the %R value for endosulfan I was greater than the control limit in the MS. However, the %R value for this target analyte was within the control limit in the corresponding MSD. No action was required for this outlier.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The %R control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the %R/RPD values were within the proper control limits, with the following exceptions:

- SDG WX38: (VOCs) The %R values for ethylbenzene, m,p-xylene, and n-propyl benzene were less than the control limits in the LCS sample extracted on 7/15/2013. However, the %R values for these target

analytes were within the control limits in the corresponding LCSD. No action was required for these outliers.

- SDG WX43: (VOCs) The %R values for bromomethane were less than the control limits in the LCS/LCSD extracted on 7/22/2013. The reporting limits for bromomethane were qualified as estimated (UJ) in Samples MW-18-12.5, MW-18-27.5, MW-18-35.0, MW-2R-10.0, MW-2R-20.0, MW-2R-20.0-Dup, MW-2R-32.5-Dup, and Trip Blank-07112013.
- SDG K1306937: (Pesticides) The %R value for cis-nonachlor was greater than the control limit in the LCSD extracted on 7/22/2013. However, the %R value for this target analyte was within the control limit in the corresponding LCS. No action was required for this outlier. Also, the RPD for endrin aldehyde was greater than the control limits in the same LCS/LCSD sample set. There were no positive results for this target analyte in the associated field samples, therefore, no action was required for this outlier.

  The %R values for delta-BHC were less than the control limits in the LCS/LCSD extracted on 8/1/2013. The reporting limit for delta-BHC was qualified as estimated (UJ) in Sample MW-16-25.0.
- SDG WX47: (VOCs) The %R values for bromomethane were less than the control limits in the LCS/LCSD extracted on 7/22/2013. The reporting limits for bromomethane were qualified as estimated (UJ) in Samples MW-13-12.5, MW-13-25.0, MW-13-32.5, MW-17-12.5, and Trip Blank-07122013.

  The %R values for bromomethane were less than the control limits in the LCS/LCSD (sample amount 100 mg) extracted on 7/23/2013. The reporting limit for bromomethane was qualified as estimated (UJ) in Sample MW-17-27.5.

  The %R values for bromomethane were less than the control limits in the LCS/LCSD (sample amount 5.00 g) extracted on 7/23/2013. The reporting limits for bromomethane were qualified as estimated (UJ) in Samples MW-17-30.0 and MW-17-30.0-Dup.

Field Duplicates

Field duplicate samples are obtained and analyzed along with the primary project samples. The duplicate samples are analyzed for the same parameters as the associated primary samples. The RPD between the primary and duplicate samples is used to assess sample heterogeneity and laboratory precision, unless one or more of the samples used has a concentration greater than five times the method reporting limit for that sample. In such cases, the absolute difference is used instead of the RPD. The RPD control limit for soil samples is 50 percent.

- SDG WW82: For all analyses, two field duplicate sample pairs were analyzed: DP-1-12.5/DP-1-12.5-Dup and DP-10-12.5/DP-10-12.5-Dup. The precision criteria above were met for all target analytes in both samples pairs, with the following exceptions:

  DP-1-12.5/DP-1-12.5-Dup

Analyte	Parent Sample	Duplicate Sample
Benzene	UJ	J

  DP-10-12.5/DP-10-12.5-Dup

Analyte	Parent Sample	Duplicate Sample
Gasoline Range Hydrocarbons	J	J

Benzene	J	J
Toluene	UJ	J
m,p-Xylene	J	J
o-Xylene	UJ	J

- SDG WX42 (K1306937): For all analyses, one field duplicate sample pair was analyzed: MW-19-12.5/MW-19-12.5-Dup. The precision criteria above were met for all target analytes in both samples, with the following exceptions:

(VOCs)

Analyte	Parent Sample	Duplicate Sample
Ethylbenzene	J	J

(SVOCs)

Analyte	Parent Sample	Duplicate Sample
Naphthalene	J	J
2-Methylnaphthalene	J	J
Acenaphthylene	UJ	J
Acenaphthene	J	J
Phenanthrene	J	J
Carbazole	J	J
Anthracene	J	J
Di-n-Butyl phthalate	J	UJ
Fluoranthene	J	J
Pyrene	J	J
Benzo(a)anthracene	J	J
Chrysene	J	J
Benzo(a)pyrene	J	J
Indeno(1,2,3-cd)pyrene	J	J
Benzo(g,h,i)perylene	J	J
1-Methylnaphthalene	J	J
Total Benzofluoranthenes	J	J

(PAHs)

Analyte	Parent Sample	Duplicate Sample
Naphthalene	J	J
2-Methylnaphthalene	J	J
1-Methylnaphthalene	J	J
Acenaphthylene	UJ	UJ
Acenaphthene	J	J

(TOC)

Analyte	Parent Sample	Duplicate Sample
TOC	J	J

- SDG WX43 (K1306933): For all analyses, one field duplicate sample pair was analyzed: MW-2R-20.0/MW-2R-20.0-Dup. The precision criteria above were met for all target analytes in both samples, with the following exceptions:

  (VOCs)

Analyte	Parent Sample	Duplicate Sample
Carbon Disulfide	J	J

  (SVOCs)

Analyte	Parent Sample	Duplicate Sample
2-Methylnaphthalene	J	J
Dibenzofuran	J	J
1-Methylnaphthalene	J	J

  (PAHs)

Analyte	Parent Sample	Duplicate Sample
Naphthalene	J	J
2-Methylnaphthalene	J	J
1-Methylnaphthalene	J	J
Acenaphthene	J	J
Fluorene	J	J
Dibenzofuran	J	J

  (NWTPH-Dx)

Analyte	Parent Sample	Duplicate Sample
Diesel Range Hydrocarbons	J	J

  (Pesticides)

Analyte	Parent Sample	Duplicate Sample
Chlordane, gamma	J	J

- SDG WX47 (K1306932): For all analyses, one field duplicate sample pair was analyzed: MW-17-30.0/MW-17-30.0-Dup. The precision criteria above were met for all target analytes in both samples, with the following exceptions:

  (VOCs)

Analyte	Parent Sample	Duplicate Sample
Acetone	J	J
Carbon Disulfide	J	J
2-Butanone	J	J
Ethylbenzene	J	J

  (PAHs)

Analyte	Parent Sample	Duplicate Sample

Pyrene	J	J
Benzo(a)anthracene	J	J
Chrysene	J	J
Total Benzofluoranthenes	J	J

Internal Standards

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry instrumentation and are usually added to the sample aliquot after extraction has taken place. Internal standards are representative of the target analytes that are similar in retention time to the standard itself. The internal standard should be analyzed at the beginning of a 12 hour sample run and the control limits for internal standard recoveries are 50% to 200% of the calibration standard. All internal standard recoveries were within the control limits, with the following exceptions:

- SDG WX38: (VOCs) The laboratory reported two sets of results for Sample MW-15-22.5, an initial and a re-analysis, because the internal standard areas were less than the control limits. The re-analysis found comparable results to the initial sample. The entire data set of target analytes in the re-analysis sample were labeled as do-not-report (DNR) and should not be used for any purpose.

  The internal standard recoveries for pentafluorobenzene, 1,4-difluorobenze, d5-chlorobenzen, and d4-1,4-dichlorobenze were less than the control limits for Sample MW-15-22.5. The reporting limits for most of the target analytes were qualified as estimated (UJ) in Sample MW-15-22.5.
- SDG WX43: (SVOCs) The internal standard recovery for perylene-d12 was less than the control limit for Sample MW-18-27.5. The positive results for indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene were qualified as estimated (J) in Sample MW-18-27.5. The reporting limit for dibenzo(a,h)anthracene was qualified as estimated (UJ) in Sample MW-18-27.5.
- SDG K1306932: (Pesticides) The internal standard recovery for gamma-BHC-d6 was less than the control limit for Sample MW-17-27.5. The positive results for 4,4'-DDE, 2,4'-DDD, dieldrin, and 4,4'-DDD were qualified as estimated (J) in Sample MW-17-27.5. The reporting limits for alpha-BHC, gamma-BHC, beta-BHC, delta-BHC, and mirex were qualified as estimated (UJ) in Sample MW-17-27.5.

Instrument Initial Calibration (ICALs)

All initial calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For organic analyses, all percent relative standard deviation (%RSD) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008) and all relative response factors (RRF) were greater than 0.05. For inorganic analyses, all %R values were within the control limits of 90% and 110%.

Instrument Continuing Calibration (CCALs)

All continuing calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all %R values were within the control limits of 90% and 110%. For organic analyses, all percent difference (%D) values were within the control limits stated in the

USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008) and all relative response factors (RRF) were greater than 0.05, with the following exceptions:

- SDG WX38: (SVOCs) The %D value for carbazole was greater than the control limit in the continuing calibration verification performed on 7/23/2013. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-15-12.5, MW-15-22.5, MW-15-35.0, MW-14-7.5, MW-14-17.5, and MW-14-30.0.
- SDG WX42/WX43: (VOCs) The %D values for bromomethane and bromoethane were greater than the control limits in the continuing calibration verification performed on 7/23/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-18-12.5, MW-18-27.5, MW-18-35.0, MW-2R-10.0, MW-2R-20.0, MW-2R-20.0-Dup, MW-2R-32.5-Dup, and Trip Blank-07112013.

  (SVOCs) The %D value for 1,2,4-trichlorobenzene was greater than the control limit in the continuing calibration verification performed on 7/24/2013. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-19-12.5, MW-19-12.5-Dup, MW-19-20.0, MW-19-32.5, MW-16-12.5, MW-16-25.0, MW-16-30.0, HA-1-0.5, HA-2-0.5, HA-3-0.5, MW-18-12.5, and MW-18-27.5.

  The %D values for pentachlorophenol and carbazole were greater than the control limits in the continuing calibration verification performed on 7/25/2013. The positive results and reporting limits for these target analytes were qualified as estimated (J/UJ) in Samples MW-18-35.0, MW-2R-10.0, MW-2R-20.0, MW-2R-20.0-Dup, and MW-2R-32.5-Dup.
- SDG WX47: (VOCs) The %D values for bromomethane and bromoethane were greater than the control limits in the continuing calibration verification performed on 7/22/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-13-12.5, MW-13-25.0, MW-13-32.5, and MW-17-12.5.

  The %D values for bromomethane and iodomethane were greater than the control limits in the continuing calibration verification performed on 7/23/2013. The positive results and reporting limits for these target analytes were qualified as estimated (J/UJ) in Samples MW-17-27.5, MW-17-30.0, MW-17-30.0-Dup, and Trip Blank-07122013.

  (SVOCs) The %D value for carbazole was greater than the control limit in the continuing calibration verification performed on 7/23/2013. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-13-12.5.

  The %D values for pentachlorophenol and carbazole were greater than the control limits in the continuing calibration verification performed on 7/25/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-13-25.0, MW-13-32.5, MW-17-12.5, MW-17-27.5, MW-17-30.0, and MW-17-30.0-Dup.

Miscellaneous

SDG WW82: (NWTPH-Gx/BTEX) The laboratory reported two sets of results for Sample DP-10-10.0, an initial and a dilution (10X), because the result for gas range hydrocarbons exceeded the instrument calibration range in the initial sample. The initial reported results for gas range hydrocarbons and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

Additionally, the laboratory reported two sets of results for Samples DP-10-12.5 and DP-10-12.5-Dup, an initial and a dilution (20X), because the results for gas range hydrocarbons exceeded the instrument calibration range in the initial samples. The initial reported results for gas range hydrocarbons and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

- SDG WX42: (SVOCs) The positive result for benzo(a)pyrene in Sample MW-16-25.0 exhibited with low spectral ion match. For this reason, the positive result for this target analyte was qualified as tentatively identified (NJ) in Sample MW-16-25.0.

  (PAHs) The laboratory reported two sets of results for Sample MW-19-12.5, an initial and a dilution (4X), because the results for naphthalene and acenaphthene exceeded the instrument calibration range in the initial sample. The initial reported results for naphthalene and acenaphthene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

  Additionally, the laboratory reported two sets of results for Sample MW-19-12.5-Dup, an initial and a dilution (4X), because the results for naphthalene, 2-methylnaphthalene, and acenaphthene exceeded the instrument calibration range in the initial sample. The initial reported results for naphthalene, 2-methylnaphthalene, and acenaphthene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

  (NWTPH-Dx) The laboratory reported two sets of results for Sample MW-16-25.0, an initial and a dilution (10X), because the result for diesel range hydrocarbons exceeded the instrument calibration range in the initial sample. The initial reported result for diesel range hydrocarbons and the dilution reported result motor oil range hydrocarbons were labeled as do-not-report (DNR) and should not be used for any purpose.

- SDG WX43: (SVOCs) The laboratory reported two sets of results for Sample MW-18-27.5, an initial and a dilution (3X), because the result for di-n-octyl phthalate exhibited with low spectral ion match. For this reason, the initial reported result for di-n-octyl phthalate was qualified as tentatively identified (NJ) and the entire data set of target analytes in the dilution sample were labeled as do-not-report (DNR) and should not be used for any purpose.

- SDG WX47: (NWTPH-Dx) The laboratory reported two sets of results for Sample MW-17-27.5, an initial and a dilution (10X), because the results for diesel and motor oil range hydrocarbons exceeded the instrument calibration range in the initial sample. The initial reported results for diesel and motor oil range hydrocarbons were labeled as do-not-report (DNR) and should not be used for any purpose.

- K1306932: (Pesticides) The positive result for endosulfan II in Sample MW-13-25.0 exhibited with low spectral ion match. For this reason, the positive result for this target analyte was qualified as tentatively identified (NJ) in Sample MW-13-25.0.

OVERALL ASSESSMENT

The results of this Stage 2B data validation indicate that the laboratory followed the specified analytical methods. The accuracy of the data are acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD %R values, with the exceptions noted above. The precision of the data also are acceptable, as demonstrated by the LCS/LCSD, MS/MSD, field duplicate RPD values, with the exceptions noted above.

Selected data were qualified as follows:

- Non-detected because of method and trip blank contamination.
- Estimated because of holding time, MS/MSD, LCS/LCSD, field duplicate, internal standards, and CCALs outliers.
- Tentatively identified because of low spectral ion matches.
- Do-not-report in order to avoid two sets of results to be reported for the same sample.

However, based on the data quality review, it is our opinion that the analytical data, including data qualified as noted above, are of acceptable quality for their intended use.

REFERENCES

GeoEngineers, Inc., "Final Work Plan – RI/FS", prepared for the Washington State Department of Ecology on Behalf of 7100 1st Avenue S. Seattle, LLC, GEI File No. 0275-015-01, February 15, 2013.

U.S. Environmental Protection Agency (USEPA). "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," OSWER 9240.1-45, EPA 540-R-10-011. January 2010.

U.S. Environmental Protection Agency (USEPA). "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," EPA-540-R-08-01. June 2008.

U.S. Environmental Protection Agency (USEPA). "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use," EPA-540-R-08-005. January 2009.

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Data Validation Report

Project:	7100 1st Avenue South Site (Dock 2 Property) – 2013 Groundwater Investigation
GEI File No:	00275-015-02
Date:	November 18, 2013

GENERAL

This report presents the results of a United States Environmental Protection Agency (USEPA)-defined Stage 2B validation (USEPA Document 540-R-08-005; USEPA, 2009) of analytical data from the analyses of water samples obtained from the 7100 1st Avenue South Site (Dock 2 Property) located in Seattle, Washington.

Objective and Quality Control (QC) Elements

The objective of the data quality assessment was to review laboratory analytical procedures and QC results to evaluate whether:

- The samples were analyzed using well-defined and acceptable methods that provide quantitation limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (Appendix B of the Final Work Plan – RI/FS; GeoEngineers, 2013), the laboratory data was reviewed for the following QC elements:

- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Field Duplicates
- Internal Standards
- Instrument Initial Calibration (ICALs)
- Instrument Continuing Calibration (CCALs)
- Miscellaneous

Chemical Analysis Performed

The water samples obtained during the site remedial investigation sampling event were submitted to Analytical Resources, Incorporated (ARI) of Tukwila, WA for one or more of the following analyses:

- Volatile Organic Compounds (VOCs) by Method SW8260;
- Semi-volatile Organic Compounds (SVOCs) by Method SW8270;
- Polycyclic Aromatic Hydrocarbons (PAHs) by Method SW8270-SIM;
- Polychlorinated biphenyls (PCBs) by Method SW8082;
- Petroleum Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;
- Gas-Range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- Metals, Total and Dissolved by Methods SW200.8;
- Total Dissolved Solids (TDS) by Method SM2540 and EPA160.1; and
- Chloride by Method EPA300.0

ARI subcontracted to ALS Environmental (ALS) of Kelso, WA for one or more of the following analyses:

- Pesticides by High Resolution Mass-Spectrometry (internal laboratory method CAS SOC-PESTMS2); and
- Mercury, Total and Dissolved by Method 1631

ARI and ALS Sample Delivery Groups (SDGs)

The following laboratory SDGs were delivered by ARI (and ALS) and were reviewed by GeoEngineers for the QC elements listed above:

- WW82
- XB03/XB42 (K1308308/K1308367)
- XB49 (K1308438)
- XB77(K1308520)

DATA QUALITY ASSESSMENT SUMMARY

The results for each of the QC elements are summarized below. The data assessment was performed using guidance in two USEPA documents: USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA, 2010) and USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008).

Chain-of-Custody Documentation

Chain-of-custody forms were provided with the laboratory analytical reports. No transcription errors were found and the appropriate signatures were applied. There were no anomalies mentioned in the sample receipt forms, as the samples were transported to the laboratory at the appropriate temperatures of between 2 and 6 degrees Celsius, with the following exceptions:

- SDG WW82: The sample cooler temperatures recorded at the lab were 13.6, 19.4, 15.3, 17.5, 17.1, 21.3, 13.1, 18.2, 17.3, and 14.6 degrees Celsius.

All sample coolers were received by the laboratory within 24 hours of the sampling event, therefore no qualifiers were required for these outliers.

Holding Times and Sample Preservation

The holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria and sample preservation exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Recommended holding time and sample preservation was met for all analyses, with the following exception:

- SDG K1308438: (Pesticides) The 7-day holding time for aldrin and isodrin in Sample MW-4 was exceeded by 28 days. The analysis of this sample was initially performed within the recommended holding time, however re-extraction was required because several internal standards exceeded their control limits. The reporting limits for aldrin and isodrin were qualified as estimated (UJ) in this sample.
- SDG XB77: (SVOCs) The 7-day holding time of Sample MW-Dup was exceeded by 5 days. The analysis of this sample was initially performed within the recommended holding time, however re-extraction was required because several surrogate recoveries exceeded their control limits. The positive results for all target analytes were qualified as estimated (J) in this sample. The reporting limits for all target analytes were qualified as estimated (UJ) in this sample.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added at a known concentration and percent recoveries (%R) are calculated following analysis. All surrogate recoveries for field samples were within the laboratory control limits, with the following exceptions:

- SDG WW82: (PAHs) The %R values for surrogates d10-fluoranthene, d10-2-methylnaphthalene, and d14-dibenzo(a,h)anthracene in Sample DP-10 were not recoverable because of sample dilution (10X). The surrogates are added to the sample when it is extracted. If the sample is diluted 10X or more, recovery of the surrogates is often not possible because it is also diluted below the linear calibration range of the instrument. No action was required for these outliers.
- SDG K1308367: (Pesticides) The %R values for surrogates aldrin-13C12 and isodrin-13C12 were less than the control limits in Sample MW-9. However, the samples were spiked with 13 additional surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.
- SDG K1308438: (Pesticides) The %R values for surrogate heptachlor-13C10 were greater than the control limits in Samples MW-3 and MW-4. However, the samples were spiked with 14 additional surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.
- SDG XB77: (SVOCs) The %R values for surrogate 2,4,6-tribromophenol were greater than the control limits in Samples MW-19, MW-2R, and MW-14. However, the samples were spiked with 3 additional acidic surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.

- SDG K1308520: (Pesticides) The %R values for surrogate heptachlor-13C10 were greater than the control limits in Samples MW-19, MW-2R, MW-16, MW-17, MW-14, MW-18, and MW-Dup. However, the samples were spiked with 14 additional surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.

Method and Trip Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest into project samples. Method blanks were analyzed with each batch of samples, at a frequency of one per twenty samples. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. No method blank detections were reported by the testing laboratory, with the following exceptions:

- SDG XB42: (VOCs) The method blank, MB-082113A, extracted on 8/21/2013 reported a positive concentration for hexachlorobutadiene. However, there were no positive results for this target analyte in the associated batch samples. No action was required for this outlier.
- SDG XB77: (VOCs) The method blank, MB-082313A, extracted on 8/23/2013 reported a positive concentration for hexachlorobutadiene. However, there were no positive results for this target analyte in the associated batch samples. No action was required for this outlier.

Trip blanks are analyzed to assess whether field sampling or sample transport processes may have introduced measurable concentrations of volatile analytes of interest into project samples. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. No trip blank detections were reported by the testing laboratory.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery (%R) is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the %R from the MS and MSD, the relative percent difference (RPD) is calculated. The %R control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the %R/RPD values were within the proper control limits, with the following exceptions:

- SDG XB42: (Metals) The laboratory performed an MS/MSD sample set on Sample MW-12. The %R values for total zinc were less than the control limits in the MS/MSD extracted on 8/22/2013. The positive results and reporting limits for this target analyte were qualified as estimated (J/UJ) in Samples MW-12, MW-10, MW-15, MW-5, MW-1, MW-11, and MW-9. Also, the RPD for total chromium and total

zinc were greater than the control limits in the same MS/MSD sample set. The positive results for these target analytes were qualified as estimated (J) in Samples MW-12, MW-15, MW-5, and MW-11.

Additionally, the %R values for dissolved silver were less than the control limits in the same MS/MSD sample set. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-12, MW-10, MW-15, MW-5, MW-1, MW-11, and MW-9. Also, the RPD for dissolved zinc was greater than the control limits in the same MS/MSD sample set. The positive results for this target analyte were qualified as estimated (J) in Samples MW-12 and MW-11.

- SDG XB77: (Metals) The laboratory performed an MS/MSD sample set on Sample MW-19. The RPD for total chromium was greater than the control limits in the MS/MSD extracted on 8/30/2013. The positive results for this target analyte were qualified as estimated (J) in Samples MW-19, MW-2R, MW-16, MW-17, MW-18, and MW-Dup.

  Additionally, the %R values for dissolved silver were less than the control limits in the same MS/MSD sample set. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-19, MW-2R, MW-16, MW-17, MW-14, MW-18, and MW-Dup.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The %R control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the %R/RPD values were within the proper control limits, with the following exceptions:

- SDG WW82: (VOCs) The %R values for acrolein were less than the control limits in the LCS/LCSD extracted on 7/10/2013. The reporting limits for acrolein were qualified as estimated (UJ) in Samples DP-10, DP-11, and Trip Blank-07082013.

  (SVOCs) The %R and RPD values for 1,2-diphenylhydrazine and azobenzene were not recovered in the LCS/LCSD extracted on 7/15/2013. The reporting limits for 1,2-diphenylhydrazine and azobenzene were qualified as estimated (UJ) in Samples DP-10 and DP-11.

- SDG XB03: (SVOCs) The %R values for 4-chloroaniline were greater than the control limits in the LCS/LCSD extracted on 8/20/2013. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier.

- SDG XB42: (VOCs) The %R value for 1,2,3-trichlorobenzene was greater than the control limit in the LCSD extracted on 8/16/2013. However, the %R value for this target analyte was within the control limit in the corresponding LCS. No action was required for this outlier.

  The %R values for 1,2,3-trichlorobenzene were greater than the control limits in the LCS/LCSD extracted on 8/21/2013. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier. Also, the %R value for 1,1,1,2-tetrachloroethane was

greater than the control limit in the LCS for the same LCS/LCSD sample set. However, the %R value for this target analyte was within the control limit in the corresponding LCSD. No action was required for this outlier.

- SDG K1308308: (Pesticides) The %R values for beta-BHC and delta-BHC were greater than the control limits in the LCSD extracted on 8/21/2013. However, the %R value for these target analytes were within the control limits in the corresponding LCS. No action was required for these outliers.
- SDG K1308367: (Pesticides) The %R values for beta-BHC and delta-BHC were greater than the control limits in the LCSD extracted on 8/21/2013. However, the %R values for these target analytes were within the control limits in the corresponding LCS. No action was required for these outliers.
- SDG XB49: (VOCs) The %R values for 1,2,3-trichlorobenzene were greater than the control limits in the LCS/LCSD extracted on 8/16/2013. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier.

  (SVOCs) The %R values for 4-chloroaniline were greater than the control limits in the LCS/LCSD extracted on 8/16/2013. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier.
- SDG K1308438: (Pesticides) The %R values for beta-BHC and delta-BHC were greater than the control limits in the LCSD extracted on 8/21/2013. However, the %R values for these target analytes were within the control limits in the corresponding LCS. No action was required for these outliers.
- SDG XB77: (VOCs) The %R value for bromodichloromethane was greater than the control limit in the LCSD extracted on 8/23/2013. However, the %R value for this target analyte was within the control limit in the corresponding LCS. No action was required for this outlier. Also, the %R values for bromoform were greater than the control limits in the same LCS/LCSD sample set. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier.

  (SVOCs) The %R values for 4-chloroaniline and 3-nitroaniline were greater than the control limits in the LCS/LCSD extracted on 8/23/2013. There were no positive results for these target analytes in the associated field samples. No action was required for these outliers.

  The %R values for 4-chloroaniline were greater than the control limits in the LCS/LCSD extracted on 8/31/2013. There were no positive results for this target analyte in the associated field sample, MW-Dup. No action was required for this outlier.
- K1308520: (Pesticides) The %R values for beta-BHC and delta-BHC were greater than the control limits in the LCS/LCSD extracted on 8/26/2013. The positive results for delta-BHC were qualified as estimated (J) in Sample MW-18. Also, the %R value for 2,4'-DDE was greater than the control limit in the LCS in the same LCS/LCSD sample set. However, the %R value for this target analyte was within the control limit in the corresponding LCSD. No action was required for this outlier.

Field Duplicates

Field duplicate samples are obtained and analyzed along with the primary project samples. The duplicate samples are analyzed for the same parameters as the associated primary samples. The RPD between the primary and duplicate samples is used to assess sample heterogeneity and laboratory precision, unless one or more of the samples used has a concentration greater than five times the method reporting limit for that

sample. In such cases, the absolute difference is used instead of the RPD. The RPD control limit for water samples is 35 percent.

- SDG XB77 (K1308520): For all analyses, one field duplicate sample pair was analyzed: MW-17/MW-Dup. The precision criteria above were met for all target analytes in both samples, with the following exceptions:

  (PAHs)

Analyte	Parent Sample	Duplicate Sample
Naphthalene	J	J

  (NWTPH-Dx)

Analyte	Parent Sample	Duplicate Sample
Diesel Range Hydrocarbons	J	J

  (Pesticides)

Analyte	Parent Sample	Duplicate Sample
Chlordane, gamma	J	J
4,4'-DDE	J	J
2,4'-DDD	J	J
4,4'-DDD	J	J

Internal Standards

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry instrumentation and are usually added to the sample aliquot after extraction has taken place. Internal standards are representative of the target analytes that are similar in retention time to the standard itself. The internal standard should be analyzed at the beginning of a 12 hour sample run and the control limits for internal standard recoveries are 50% to 200% of the calibration standard. All internal standard recoveries were within the control limits, with the following exceptions:

- SDG K1308367: (Pesticides) The internal standard recoveries for aldrin-13C12 and isodrin-13C12 were less than the control limits for Samples MW-1 and MW-9. The reporting limits for aldrin and isodrin were qualified as estimated (UJ) in Samples MW-1 and MW-9.
- SDG K1308438: (Pesticides) The internal standard recoveries for gamma-BHC-d6, heptachlor-13C10, aldrin-13C12, and isodrin-13C12 were outside the control limits for Sample MW-4. The reporting limits for alpha-BHC, gamma-BHC, aldrin, and isodrin were qualified as estimated (UJ) in Sample MW-4.

Instrument Initial Calibration (ICALs)

All initial calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For organic analyses, all percent relative standard deviation (%RSD) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008) and all relative response factors (RRF) were greater than 0.05. For inorganic analyses, all %R values were within the control limits of 90% and 110%.

Instrument Continuing Calibration (CCALs)

All continuing calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all %R values were within the control limits of 90% and 110%. For organic analyses, all percent difference (%D) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008) and all relative response factors (RRF) were greater than 0.05, with the following exceptions:

- SDG WW82: (VOCs) The %D values for acrolein, acrylonitrile, 2-chloroethylvinylether, and hexachlorobutadiene were greater than the control limits in the continuing calibration verification performed on 7/10/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples DP-10, DP-11, and Trip Blank-07082013.
- SDG XB42: (VOCs) The %D values for carbon tetrachloride, 1,1,1,2-tetrachloroethane, and 1,2,3-trichlorobenzene were greater than the control limits in the continuing calibration verification performed on 8/21/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-12, MW-10, MW-15, MW-5, MW-1, MW-11, MW-9, and TB-08152013.
- SDG XB49: (VOCs) The %D value for 2-chloroethylvinylether was greater than the control limit in the continuing calibration verification performed on 8/20/2013. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-4, MW-3, and TB-08162013.
- SDG XB77: (VOCs) The %D values for carbon tetrachloride, bromodichloromethane, dibromochloromethane, and bromoform were greater than the control limits in the continuing calibration verification performed on 8/23/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-19, MW-2R, MW-16, MW-17, MW-14, MW-18, MW-Dup, and TB-08192013.

Miscellaneous

- SDG WW82: (VOCs) The laboratory reported two sets of results for Sample DP-10, an initial and a dilution (10X), because the results for benzene, ethylbenzene, n-propylbenzene, and naphthalene exceeded the instrument calibration range in the initial sample. The initial reported results for benzene, ethylbenzene, n-propylbenzene, and naphthalene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

  (PAHs) The laboratory reported two sets of results for Sample DP-10, an initial and a dilution (100X), because the results for naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene exceeded the instrument calibration range in the initial sample. The initial reported results for naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

  Additionally, the laboratory reported two sets of results for Sample DP-11, an initial and a dilution (3X), because the result for 1-methylnaphthalene exceeded the instrument calibration range in the initial sample. The initial reported result for 1-methylnaphthalene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.
- SDG XB42: (PAHs) The laboratory reported two sets of results for Sample MW-10, an initial and a dilution (5X), because the result for acenaphthene exceeded the instrument calibration range in the

initial sample. The initial reported result for acenaphthene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

- SDG XB49: (SVOCs) The laboratory reported two sets of results for Sample MW-4, an initial and a dilution (3X), because the results for naphthalene exceeded the instrument calibration range in the initial sample. The initial reported results for naphthalene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

  Additionally, the positive results for 4-methylphenol in Sample MW-4 exhibited with low spectral ion match. For this reason, the positive result for this target analyte was qualified as tentatively identified (NJ) in Sample MW-4.

  (PAHs) The laboratory reported two sets of results for Sample MW-4, a dilution (10X) and a dilution (500X), because the results for naphthalene, 2-methylnaphthalene, and 1-methylnaphthalene exceeded the instrument calibration range in the dilution (10X) sample. The dilution (10X) reported results for naphthalene, 2-methylnaphthalene, and 1-methylnaphthalene and the dilution (500X) reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

- SDG XB77: (SVOCs) The laboratory reported two sets of results for Sample MW-Dup, an initial and a re-extraction, because the several of the surrogates were recovered outside of the control limits. The initial reported results for Sample MW-Dup were labeled as do-not-report (DNR) and should not be used for any purpose.

  (PAHs) The laboratory reported two sets of results for Sample MW-19, an initial and a dilution (100X), because the results for naphthalene, 2-methylnaphthalene, 1-methylnaphthalene, acenaphthene, fluorene, phenanthrene, and dibenzofuran exceeded the instrument calibration range in the initial sample. The initial reported results for naphthalene, 2-methylnaphthalene, 1-methylnaphthalene, acenaphthene, fluorene, phenanthrene, and dibenzofuran and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

  Additionally, the laboratory reported two sets of results for Sample MW-2R, an initial and a dilution (25X), because the results for naphthalene, 1-methylnaphthalene, acenaphthene, fluorene, and phenanthrene exceeded the instrument calibration range in the initial sample. The initial reported results for naphthalene, 1-methylnaphthalene, acenaphthene, fluorene, and phenanthrene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

OVERALL ASSESSMENT

The results of this Stage 2B data validation indicate that the laboratory followed the specified analytical methods. The accuracy of the data are acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD %R values, with the exceptions noted above. The precision of the data also are acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values, with the exceptions noted above.

Selected data were qualified as follows:

- Estimated because of holding time, MS/MSD, LCS/LCSD, field duplicate, internal standards, and CCALs outliers.

- Tentatively identified because of low spectral ion matches.
- Do-not-report in order to avoid two sets of results to be reported for the same sample.

However, based on the data quality review, it is our opinion that the analytical data, including data qualified as noted above, are of acceptable quality for their intended use.

REFERENCES

GeoEngineers, Inc., "Final Work Plan – RI/FS", prepared for the Washington State Department of Ecology on Behalf of 7100 1st Avenue S. Seattle, LLC, GEI File No. 0275-015-01, February 15, 2013.

U.S. Environmental Protection Agency (USEPA). "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," OSWER 9240.1-45, EPA 540-R-10-011. January 2010.

U.S. Environmental Protection Agency (USEPA). "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review," EPA-540-R-08-01. June 2008.

U.S. Environmental Protection Agency (USEPA). "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use," EPA-540-R-08-005. January 2009.

GeoEngineers

Data Validation Report

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Project:	7100 1st Avenue South Site (Dock 2 Property) – 2013 Stormwater, Seep, and Sediment Investigation
GEI File No:	00275-015-02
Date:	November 18, 2013

GENERAL

This report presents the results of a United States Environmental Protection Agency (USEPA)-defined Stage 2B validation (USEPA Document 540-R-08-005; USEPA, 2009) of analytical data from the analyses of water and sediment samples obtained from the 7100 1st Avenue South Site (Dock 2 Property) located in Seattle, Washington.

Objective and Quality Control (QC) Elements

The objective of the data quality assessment was to review laboratory analytical procedures and QC results to evaluate whether:

- The samples were analyzed using well-defined and acceptable methods that provide quantitation limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (Appendix B of the Final Work Plan – RI/FS; GeoEngineers, 2013), the laboratory data was reviewed for the following QC elements:

- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Ongoing Precision and Recovery (OPR) Samples
- Field Duplicates
- Internal Standards
- Instrument Initial Calibration (ICALs)
- Instrument Continuing Calibration (CCALs)
- Miscellaneous

Chemical Analysis Performed

The water and sediment samples obtained during the site remedial investigation sampling event were submitted to Analytical Resources, Incorporated (ARI) of Tukwila, WA for one or more of the following analyses:

- Volatile Organic Compounds (VOCs) by Method SW8260;
- Semi-volatile Organic Compounds (SVOCs) by Method SW8270;
- Polycyclic Aromatic Hydrocarbons (PAHs) by Method SW8270-SIM;
- Dioxins/Furans by Method EPA1613;
- Polychlorinated biphenyls (PCBs) by Method SW8082;
- Petroleum Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;
- Gas-Range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- Metals, Total and Dissolved by Methods SW200.8 and SW7471;
- Grain Size by Method Puget Sound Estuary Protocol (PSEP);
- Total Solids (TS) by Method SM2540;
- Total Organic Carbon (TOC) by Method Plumb, 1981;
- Total Dissolved Solids (TDS) by Method SM2540; and
- Chloride by Method EPA300.0

ARI subcontracted to ALS Environmental (ALS) of Kelso, WA for one or more of the following analyses:

- Pesticides by High Resolution Mass-Spectrometry (internal laboratory method CAS SOC-PESTMS2);
- Total Mercury by Method 1631; and
- Total Solids (TS) by Method 160.3

ARI and ALS Sample Delivery Groups (SDGs)

The following laboratory SDGs were delivered by ARI (and ALS) and were reviewed by GeoEngineers for the QC elements listed above

- XD39/XD45 (K1309175/K1309177)
- XD40 (K1309173)

DATA QUALITY ASSESSMENT SUMMARY

The results for each of the QC elements are summarized below. The data assessment was performed using guidance in three USEPA documents: USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA, 2010), USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008), and USEPA Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/furan Data Review (USEPA, 2011).

Chain-of-Custody Documentation

Chain-of-custody forms were provided with the laboratory analytical reports. No transcription errors were found and the appropriate signatures were applied. There were no anomalies mentioned in the sample receipt forms, as the samples were transported to the laboratory at the appropriate temperatures of between 2 and 6 degrees Celsius.

Holding Times and Sample Preservation

The holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria and sample preservation exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Recommended holding time and sample preservation was met for all analyses.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added at a known concentration and percent recoveries (%R) are calculated following analysis. All surrogate recoveries for field samples were within the laboratory control limits, with the following exceptions:

- SDG XD39/XD45: (PAHs) The %R values for surrogate d14-dibenzo(a,h)anthracene were greater than the control limit in Samples GEI-SEEP-1, SW-IN-090313, SW-OUT-090313, DUP-L-090313, LDW-090313, GEI-SP-1, and DUP-L-090403. However, the samples were spiked with 2 additional base neutral surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.
- SDG K1309175: (Pesticides) The %R values for surrogates GBHCD6, HXCBZ13C6, heptachlor-13C10, aldrin-13C12, and isodrin-13C12 were greater than the control limits in one or more of the associated field samples. However, the samples were spiked with at least 10 additional surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.
- SDG K1309177: (Pesticides) The %R value for surrogate heptachlor-13C10 was greater than the control limit in Sample GEI-SP-1. However, the sample was spiked with 14 additional surrogates and in each case the %R values were within their respective control limits. No action was required for this outlier.
- SDG K1309173: (Pesticides) The %R values for surrogates GBHCD6, HXCBZ13C6, heptachlor-13C10, aldrin-13C12, isodrin-13C12, and oxychlorodane-13C10 were greater than the control limits in one or more of the associated field samples. However, the samples were spiked with at least 9 additional surrogates and in each case the %R values were within their respective control limits. No action was required for these outliers.

Method and Trip Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest into project samples. Method blanks were analyzed with each batch of samples, at a frequency of one per twenty samples. In cases were target analytes are qualified as

non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. No method blank detections were reported by the testing laboratory, with the following exceptions:

- SDG XD39/XD45: (PAHs) The method blank, MB-090913, extracted on 9/9/2013 reported a positive concentration for dibenzofuran. The positive results for dibenzofuran were qualified as non-detected (U) in Samples GEI-SP-1 and DUP-L-090403.
- SDG XD40: (SVOCs) The method blank, MB-091113, extracted on 9/11/2013 reported a positive concentration for diethyl phthalate. The positive result for diethyl phthalate was qualified as non-detected (U) in Sample SED-OF-1-0.5.

  (Dioxins/Furans) The method blank, MB-091613, reported positive concentrations for 1,2,3,4,6,7,8-HpCDD (less than the reporting limit) and OCDD (less than 3 times the reporting limit). The National functional guidelines state that the action levels for these compounds should be the reporting limit and 3 times the reporting limit, respectively, for these trace contaminants. The associated batched field samples exhibited positive concentrations greater than the action levels in both cases. No further action was required.

Trip blanks are analyzed to assess whether field sampling or sample transport processes may have introduced measurable concentrations of volatile analytes of interest into project samples. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. No trip blank detections were reported by the testing laboratory, with the following exception:

- SDG XD39: (VOCs) One trip blank (Trip blank-090313) was reported in this SDG. A positive result for acetone was reported. The positive results for acetone were qualified as non-detected (U) in Samples GEI-SEEP-1, SW-IN-090313, SW-OUT-090313, DUP-L-090313, and LDW-090313.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery (%R) is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the %R from the MS and MSD, the relative percent difference (RPD) is calculated. The %R control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the %R/RPD values were within the proper control limits, with the following exceptions:

- XD39/XD45: (Total Metals) The laboratory performed an MS/MSD sample set on Sample GEI-SEEP-1. The RPD for total arsenic and total chromium were greater than the control limits in the MS/MSD extracted on 9/10/2013. The positive results for total arsenic were qualified as estimated (J) in

Samples GEI-SEEP-1, SW-IN-090313, SW-OUT-090313, DUP-L-090313, LDW-090313, GEI-SP-1, and DUP-L-090403. The positive results for total chromium were qualified as estimated (J) in Samples GEI-SEEP-1, SW-IN-090313, DUP-L-090313, and GEI-SP-1.

(Dissolved Metals) The laboratory performed an MS/MSD sample set on Sample GEI-SEEP-1. The RPD for dissolved arsenic was greater than the control limit in the MS/MSD extracted on 9/10/2013. The positive results for this target analyte were qualified as estimated (J) in Samples GEI-SEEP-1, SW-IN-090313, SW-OUT-090313, DUP-L-090313, LDW-090313, GEI-SP-1, and DUP-L-090403.

- SDG XD40: (SVOCs) The laboratory performed an MS/MSD sample set on Sample Dup-SED-1. The %R values for 4-chloroaniline, 3-nitroaniline, and pentachlorophenol were less than the control limits in the MS/MSD extracted on 9/11/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Sample Dup-SED-1.

  Additionally, the RPD for many of the target analytes were greater than the control limits in the same MS/MSD. In this case, acenaphthylene and dibenzofuran were the only target analytes with an RPD greater than the control limit and with positive results in the parent sample. The positive results for these target analytes were qualified as estimated (J) in Sample Dup-SED-1.

  The %R and RPD values for hexachlorocyclopentadiene, 3,3'-dichlorobenzidine and aniline were not recovered in the same MS/MSD sample set. The reporting limits for these target analytes were qualified as estimated (UJ) in Sample Dup-SED-1.

  (Metals) The laboratory performed an MS/MSD sample set on Sample SED-OF-1-0.5. The %R values for total chromium and total lead were greater than the control limits in the MS/MSD extracted on 9/10/2013. The positive results for these target analytes were qualified as estimated (J) in Samples SED-OF-1-0.5 and Dup-SED-1.

  The RPD for total arsenic, total cadmium, total lead, and total mercury were greater than the control limits in the same MS/MSD sample set. The positive results for these target analytes were qualified as estimated (J) in Samples SED-OF-1-0.5 and Dup-SED-1.

- K1309173 (Pesticides) The laboratory performed an MS/MSD sample set on Sample SED–OF-1-0.5. The %R and RPD values for aldrin, endosulfan I, dieldrin, endrin, 4,4'-DDT, endosulfan sulfate, and endrin ketone were not recovered in the MS/MSD extracted on 9/9/2013. The positive results for aldrin, dieldrin, and 4,4'-DDT were qualified as estimated (J) in Sample SED–OF-1-0.5. The reporting limits for endosulfan I, endrin, endosulfan sulfate, and endrin ketone were qualified as estimated (UJ) in Sample SED–OF-1-0.5.

  The %R value for 4,4'-DDD was greater than the control limit in the MS of the same MS/MSD sample set. However, the %R value for this target analyte was within the control limit in the corresponding MSD. No action was required for this outlier. Also, the RPD for endosulfan II was greater than the control limit in the same MS/MSD sample set. There were no positive results for this target analyte in the associated field sample. No action was required for this outlier.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous

than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The %R control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the %R/RPD values were within the proper control limits, with the following exceptions:

- SDG XD39/XD45: (SVOCs) The RPD for aniline was greater than the control limit in the LCS/LCSD extracted on 9/9/2013. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier.
- SDG K1309175: (Pesticides) The %R values for delta-BHC were greater than the control limits in the LCS/LCSD extracted on 9/10/2013. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier.
- SDG K1309177: (Pesticides) The %R values for delta-BHC were greater than the control limits in the LCS/LCSD extracted on 9/10/2013. There were no positive results for this target analyte in the associated field samples. No action was required for this outlier.
- SDG XD40: (VOCs) The %R values for methylene chloride were greater than the control limits in the LCS/LCSD extracted on 9/10/2013. The positive result for methylene chloride was qualified as estimated (J) in Sample Dup-SED-1.

Field Duplicates

Field duplicate samples are obtained and analyzed along with the primary project samples. The duplicate samples are analyzed for the same parameters as the associated primary samples. The RPD between the primary and duplicate samples is used to assess sample heterogeneity and laboratory precision, unless one or more of the samples used has a concentration greater than five times the method reporting limit for that sample. In such cases, the absolute difference is used instead of the RPD. The RPD control limit for sediment samples is 50 percent. The RPD control limit for water samples is 35 percent.

- SDG XD39 (K1309175): For all analyses, one field duplicate sample pair was analyzed: SW-IN-090313/DUP-L-090313. The precision criteria above were met for all target analytes in both samples, with the following exceptions:

  (VOCs)

Analyte	Parent Sample	Duplicate Sample
Acetone	J	J
1,3,5-Trimethylbenzene	J	J

  (Metals)

Analyte	Parent Sample	Duplicate Sample
Dissolved Copper	J	J
Dissolved Lead	J	J
Dissolved Nickel	J	J

Dissolved Zinc	J	J

- SDG XD45 (K1309177): For all analyses, one field duplicate sample pair was analyzed: GEI-SP-1/DUP-L-090403. The precision criteria above were met for all target analytes in both samples, with the following exceptions:

(VOCs)

Analyte	Parent Sample	Duplicate Sample
Acetone	J	J

(PAHs)

Analyte	Parent Sample	Duplicate Sample
Acenaphthene	J	J
Anthracene	J	J
Benzo(a)anthracene	J	J
Benzo(a)pyrene	UJ	J
Chrysene	J	J
Dibenzofuran	UJ	UJ
Fluoranthene	J	J
Fluorene	J	J
Total Benzofluoranthenes	UJ	UJ

(PCBs)

Analyte	Parent Sample	Duplicate Sample
Aroclor 1254	J	J
Aroclor 1260	J	J

(Metals)

Analyte	Parent Sample	Duplicate Sample
Total Arsenic	J	J
Total Copper	J	J
Total Lead	J	J
Total Mercury	J	J
Total Zinc	J	UJ

- SDG XD40: For all analyses, one field duplicate sample pair was analyzed: SED-OF-1-0.5/Dup-SED-1. The precision criteria above were met for all target analytes in both samples, with the following exceptions:

(PCBs)

Analyte	Parent Sample	Duplicate Sample
Aroclor 1254	J	J

(Pesticides)

Analyte	Parent Sample	Duplicate Sample
4,4'-DDT	J	J

Internal Standards

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry instrumentation and are usually added to the sample aliquot after extraction has taken place. Internal standards are representative of the target analytes that are similar in retention time to the standard itself. The internal standard should be analyzed at the beginning of a 12 hour sample run and the control limits for internal standard recoveries are 50% to 200% of the calibration standard. All internal standard recoveries were within the control limits, with the following exceptions:

- SDG K1309175: (Pesticides) The internal standard recovery for gamma-BHC-d6 was outside the control limit for Sample GEI-SP-1. The reporting limit for gamma-BHC was qualified as estimated (UJ) in Sample GEI-SEEP-1.

  Additionally, the internal standard recovery for heptachlor-13C10 was outside the control limit in Samples GEI-SEEP-1, SW-IN-090313, and DUP-L-090313. The positive results and reporting limits for heptachlor were qualified as estimated (J/UJ) in Samples GEI-SEEP-1, SW-IN-090313, and DUP-L-090313.

Instrument Initial Calibration (ICALs)

All initial calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For organic analyses, all percent relative standard deviation (%RSD) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008) and all relative response factors (RRF) were greater than 0.05. For inorganic analyses, all %R values were within the control limits of 90% and 110%.

Instrument Continuing Calibration (CCALs)

All continuing calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all %R values were within the control limits of 90% and 110%. For organic analyses, all percent difference (%D) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008) and all relative response factors (RRF) were greater than 0.05, with the following exceptions:

- SDG XD39/XD45: (PAHs) The %D values for indeno(1,2,3-cd)pyrene and dibenzo(a,h)anthracene were greater than the control limits in the continuing calibration verification performed on 9/12/2013. The positive results and reporting limits for these target analytes were qualified as estimated (J/UJ) in Samples GEI-SEEP-1, SW-IN-090313, SW-OUT-090313, DUP-L-090313, LDW-090313, GEI-SP-1, and DUP-L-090403.
- SDG XD40: (VOCs) The %D values for bromoethane, iodomethane, and 2-chloroethylvinylether were greater than the control limits in the continuing calibration verification performed on 9/10/2013. The positive results and reporting limits for these target analytes were qualified as estimated (UJ) in Samples SED-OF-1-0.5 and Dup-SED-1.

(SVOCs) The %D values for benzoic acid, hexachlorocyclopentadiene, and 2,4-dinitrophenol were greater than the control limits in the continuing calibration verification performed on 9/18/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples SED-OF-1-0.5 and Dup-SED-1.

Miscellaneous

- SDG XD39: (VOCs) The positive result for 2-butanone in Sample SW-IN-090313 exhibited with low spectral ion match. For this reason, the positive result for this target analyte was qualified as tentatively identified (NJ) in Sample SW-IN-090313.

  The positive result for acetone in Sample Trip Blank-090313 exhibited with low spectral ion match. For this reason, the positive result for this target analyte was qualified as tentatively identified (NJ) in Sample Trip Blank-090313.

- SDG XD45: (VOCs) The positive results for acetone in Samples GEI-SP-1 and DUP-L-090403 exhibited with low spectral ion match. For this reason, the positive results for this target analyte were qualified as tentatively identified (NJ) in Samples GEI-SP-1 and DUP-L-090403.

  (PAHs) The laboratory reported two sets of results for Sample GEI-SP-1, an initial and a dilution (5X), because the results for acenaphthene exceeded the instrument calibration range in the initial sample. The initial reported results for acenaphthene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

- SDG XD40: (Dioxins/Furans): The laboratory flagged several results with an "EMPC" or "X", indicating that the ion ratio for a given compound was outside of the control limits, which greatly reduced confidence in the qualitative analysis of the sample result. Consequently, the results listed below were qualified as not-detected (U) in the associated samples. In each case, the reporting limits were raised to the level of the laboratory detection.

Sample ID	Analytes
SED-OF-1-0.5	2,3,7,8-TCDD, 1,2,3,7,8-PeCDF, Total TCDD, Total TCDF, Total PeCDD, Total PeCDF, Total HxCDD, and Total HxCDF
DUP-SED-1	2,3,7,8-TCDD, 1,2,3,4,7,8,9-HpCDF, Total TCDD, Total TCDF, Total PeCDD, Total PeCDF, Total HxCDF, and Total HpCDF

OVERALL ASSESSMENT

The results of this Stage 2B data validation indicate that the laboratory followed the specified analytical methods. The accuracy of the data are acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD %R values, with the exceptions noted above. The precision of the data also are acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and field duplicate RPD values, with the exceptions noted above.

Selected data were qualified as follows:

- Non-detected because of method and trip blank contamination.
- Estimated because of MS/MSD, field duplicate, internal standards, and CCALs outliers.

- Tentatively identified because of low spectral ion matches.
- Non-detected because of ion ratios outside of control limits.
- Do-not-report in order to avoid two sets of results to be reported for the same sample.

However, based on the data quality review, it is our opinion that the analytical data, including data qualified as noted above, are of acceptable quality for their intended use.

REFERENCES

GeoEngineers, Inc., "Final Work Plan – RI/FS", prepared for the Washington State Department of Ecology on Behalf of 7100 1st Avenue S. Seattle, LLC, GEI File No. 0275-015-01, February 15, 2013.

U.S. Environmental Protection Agency (USEPA). "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," OSWER 9240.1-45, EPA 540-R-10-011. January 2010.

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Data Validation Report

Project: 7100 1st Avenue South Site (Dock 2 Property)
December 2013 Groundwater Investigation

GEI File No: 00275-015-02

Date: March 6, 2014

This report documents the results of a United States Environmental Protection Agency (USEPA)-defined Stage 2B data validation (USEPA Document 540-R-08-005; USEPA, 2009) of analytical data from the analyses of groundwater samples collected as part of the December 2013 sampling event, and the associated laboratory and field quality control (QC) samples. The samples were obtained from the 7100 1st Avenue South Site (Dock 2 Property) located in Seattle, Washington.

Objective and Quality Control Elements

GeoEngineers, Inc. (GeoEngineers) completed the data validation consistent with the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2008) and Inorganic Superfund Data Review (USEPA 2010) (National Functional Guidelines) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (Appendix B of the Final Work Plan – RI/FS; GeoEngineers, 2013), the data validation included review of the following QC elements:

- Data Package Completeness
- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Laboratory and Field Duplicates
- Initial Calibrations (ICALs)
- Continuing Calibrations (CCALs)
- Internal Standards

- Miscellaneous

Validated Sample Delivery Groups

This data validation included review of the sample delivery groups (SDGs) listed below in Table 1.

TABLE 1: SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDG	Samples Validated
XR52	MW-1-20131216, MW-3-131216, MW-4-20131216, MW-9-131216, MW-10-20131216, MW-12-131216, MW-16-20131216, MW-19-131216 Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis: MW-1-20131216, MW-3-131216, MW-4-20131216, MW-9-131216, MW-10-20131216, MW-12-131216, MW-16-20131216, MW-19-131216
XR59	MW-13-20131217 Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis: MW-13-20131217
XR78	MW-3-131216, MW-14-20131217, MW-19-131216, Trip Blank Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis: MW-14-20131217
XR96	MW-4-20131216, MW-9-131216, MW-10-20131216, MW-12-131216, MW-16-20131216
XS18	MW-1-20131216, MW-8-20131219, MW-18-20131219, MW-DUP-20131219 Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis: MW-8-20131219, MW-18-20131219, MW-DUP-20131219
XS29	MW-2R-20131220, MW-17-20131220, Trip Blank Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis: MW-2R-20131220, MW-17-20131220
XS80	MW-5, MW-11, MW-15, Trip Blank Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis: MW-5, MW-11, MW-15

Chemical Analysis Performed

Analytical Resources, Incorporated (ARI) of Tukwila, Washington, performed laboratory analysis on the groundwater samples using one or more of the following methods:

- Gasoline-range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- Petroleum Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;

- Volatile Organic Compounds (VOCs) by Method SW8260C;
- Semi-volatile Organic Compounds (SVOCs) by Method SW8270D;
- Polycyclic Aromatic Hydrocarbons (PAHs) by Method SW8270-SIM;
- Polychlorinated biphenyls (PCBs) by Method SW8082;
- Metals, Total and Dissolved by Methods 200.8;
- Total Dissolved Solids (TDS) by Method SM2540 and EPA160.1; and
- Chloride by Method EPA300.0

ARI subcontracted to ALS Environmental (ALS) of Kelso, Washington for the following analyses:

- Pesticides by High Resolution Mass-Spectrometry (internal laboratory method CAS SOC-PESTMS2); and
- Mercury, Total and Dissolved by Method 1631

Data Validation Summary

The results for each of the QC elements are summarized below.

Data Package Completeness

ARI and ALS provided all required deliverables for the data validation according to the National Functional Guidelines. The laboratories followed adequate corrective action processes and all identified anomalies were discussed in the relevant laboratory case narrative.

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. The COCs were accurate and complete when submitted to the lab with the exceptions identified below.

SDG XR52: The laboratory noted that Samples MW-1-20131216, MW-3-131216, MW-4-20131216, MW-9-131216, MW-10-20131216, MW-12-131216, MW-16-20131216, and MW-19-131216 were received with insufficient volume to perform all analyses. GeoEngineers collected additional volume for each sample.

Additionally, the laboratory noted that Samples MW-3-131216, MW-12-131216, MW-16-20131216, and MW-19-131216 had vials with bubbles. It was determined through professional judgment by ARI that since the bubbles were small, they would likely not affect the sample results. GeoEngineers agrees with this assessment.

SDG XR59: The laboratory noted that the VOC sample vials were not in the sample cooler received on 12/17/2013 at 11:00. These vials were received at 17:06.

SDG XS18: The laboratory noted that one vial for Sample MW-8-20131219 was received empty.

The laboratory noted that Sample MW-1-20131216 was mislabeled as MW-1-20131219 on the sample label.

SDG XS80: The laboratory noted that Sample MW-5 had vials with bubbles. It was determined through professional judgment by ARI that since the bubbles were small, they would likely not affect the sample results. GeoEngineers agrees with this assessment.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for all analyses, with the exceptions identified below. The sample coolers arrived at the laboratory at the appropriate temperatures of between two and six degrees Celsius, with the exceptions identified below.

SDG XR52: (Pesticides) The 7-day holding time for aldrin and isodrin in Sample MW-9-131216 was exceeded by 31 days. The analysis of this sample was initially performed within the recommended holding time; however re-extraction was required because of low surrogate and internal standard recovery. The reporting limits for aldrin and isodrin were qualified as estimated (UJ) in this sample.

Three sample cooler temperatures recorded at the laboratory were out of compliance at 0.9, 1.7, and 1.8 degrees Celsius. It was determined through professional judgment that since the samples were received by the laboratory the same day they were collected, these temperature should not affect the sample analytical results.

SDG XR59: (Pesticides) The 7-day holding time for aldrin and isodrin in Sample MW-13-20131217 was exceeded by 30 days. The analysis of this sample was initially performed within the recommended holding time; however re-extraction was required because of low surrogate and internal standard recovery. The reporting limits for aldrin and isodrin were qualified as estimated (UJ) in this sample.

Two sample cooler temperatures recorded at the laboratory were out of compliance at 11.3 and 0.2 degrees Celsius. It was determined through professional judgment that since the samples were received by the laboratory the same day they were collected, these temperature should not affect the sample analytical results.

SDG XR78: One sample cooler temperature recorded at the laboratory was out of compliance at 0.2 degrees Celsius. It was determined through professional judgment that since the samples were received by the laboratory the same day they were collected, this temperature should not affect the sample analytical results.

SDG XS29: Two sample cooler temperatures recorded at the laboratory were out of compliance at 10.9 and 10.3 degrees Celsius. It was determined through professional judgment that since the samples were received by the laboratory the same day they were collected, these temperatures should not affect the sample analytical results.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the organic analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added to the samples at a known concentration and percent recoveries are calculated following analysis. All surrogate percent recoveries for field samples were within the laboratory control limits.

Method and Trip Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For all sample batches, method blanks for all applicable methods were analyzed at the required frequency. None of the analytes of interest were detected above the reporting limits in any of the method blanks.

Trip blanks are analyzed to provide an indication as to whether volatile compounds have cross-contaminated other like samples within the transportation process to the laboratory. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. None of the target analytes were detected above the reporting limits in any of the trip blanks, with the following exception:

SDG XS80: (VOCs) One trip blank was reported in this SDG. A positive result for acetone and chloromethane were reported. The positive results for acetone were qualified as non-detected (U) in Samples MW-5 and MW-15. There were no positive results for this target analyte in Sample MW-11.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

For inorganic methods, the matrix spike is followed by a post-digestion spike sample if any element percent recoveries were outside the control limits in the matrix spike. The percent recovery control limits for matrix spikes are 75% to 125%.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG XR78: (Total Metals) The laboratory performed a matrix spike on Sample MW-14-20131217. The percent recovery for zinc was less than the control limits in the matrix spike extracted on 12/20/2013. The positive result for zinc was qualified as estimated (J) in Sample MW-14-20131217. Additionally, the post-digestion spike sample was within the control limits.

(Dissolved Metals) The laboratory performed a matrix spike on Sample MW-14-20131217. The percent recovery for zinc was less than the control limits in the matrix spike extracted on 12/20/2013. The positive result for zinc was qualified as estimated (J) in Sample MW-14-20131217. Additionally, the post-digestion spike sample was within the control limits.

SDG XR29: (Total Metals) The laboratory performed a matrix spike on Sample MW-2R-20131220. The percent recovery for silver was less than the control limits in the matrix spike extracted on 12/23/2013. The reporting limits for silver were qualified as estimated (UJ) in Samples MW-2R-20131220 and MW-17-20131220. Additionally, the post-digestion spike sample was within the control limits.

(Dissolved Metals) The laboratory performed a matrix spike on Sample MW-2R-20131220. The percent recovery for silver was less than the control limits in the matrix spike extracted on 12/23/2013. The reporting limits for silver were qualified as estimated (UJ) in Samples MW-2R-20131220 and MW-17-20131220. Additionally, the post-digestion spike sample was within the control limits.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG XR52: (SVOCs) The percent recovery for aniline was less than the control limits in the LCS extracted on 12/21/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCSD. No action was required for this outlier. Additionally, the RPD for benzoic acid, 4-nitrophenol, and aniline was greater than the control limit in the same LCS/LCSD sample set. There were no positive results for these target analytes in the associated field samples; therefore, no action was required for these outliers.

(Pesticides) The percent recovery for delta-BHC was greater than the control limits in the LCSD extracted on 12/23/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCS. No action was required for this outlier.

SDG XR59: (SVOCs) The percent recovery for aniline was less than the control limits in the LCS extracted on 12/21/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCSD. No action was required for this outlier. Additionally, the RPD for benzoic acid, 4-nitrophenol, and aniline was greater than the control limit in the same LCS/LCSD sample set. There were no positive results for these target analytes in the associated field samples; therefore, no action was required for these outliers.

(Pesticides) The percent recovery for delta-BHC was greater than the control limits in the LCSD extracted on 12/23/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCS. No action was required for this outlier.

SDG XR78: (SVOCs) The percent recovery for aniline was less than the control limits in the LCS extracted on 12/21/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCSD. No action was required for this outlier. Additionally, the RPD for benzoic acid, 4-nitrophenol, and aniline was greater than the control limit in the same LCS/LCSD sample set. There were no positive results for these target analytes in the associated field samples; therefore, no action was required for these outliers.

(Pesticides) The percent recovery for delta-BHC was greater than the control limits in the LCSD extracted on 12/23/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCS. No action was required for this outlier.

SDG XS18: (VOCs) The percent recovery for vinyl acetate, 1,2-dibromo-3-chloropropane, and 1,2,3-trichloropropane was less than the control limits in the LCS/LCSD extracted on 12/30/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-Dup-20131219, MW-8-20131219, and MW-18-20131219.

The percent recovery for 2-hexanone was less than the control limits in the LCSD extracted on 12/30/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCS. No action was required for this outlier.

The percent recovery for acrolein was less than the control limits in the LCS extracted on 12/30/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCSD. No action was required for this outlier.

(Pesticides) The percent recovery for delta-BHC was greater than the control limits in the LCSD extracted on 12/23/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCS. No action was required for this outlier.

SDG XS29: (VOCs) The percent recovery for vinyl acetate, 1,2-dibromo-3-chloropropane, and 1,2,3-trichloropropane was less than the control limits in the LCS/LCSD extracted on 12/30/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-2R-20131220, MW-17-20131220, and Trip Blank.

The percent recovery for 2-hexanone was less than the control limits in the LCSD extracted on 12/30/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCS. No action was required for this outlier.

The percent recovery for acrolein was less than the control limits in the LCS extracted on 12/30/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCSD. No action was required for this outlier.

(Pesticides) The percent recovery for delta-BHC was greater than the control limits in the LCSD extracted on 12/23/2013; however, the percent recovery for this target analyte was within the control limits in the corresponding LCS. No action was required for this outlier.

SDG XS80: (VOCs) The percent recovery for 1,2-dichloropropane and 1,1,2,2-tetrachloroethane was less than the control limits in the LCS extracted on 1/6/2014; however, the percent recovery for these target analytes were within the control limits in the corresponding LCSD. No action was required for these outliers.

The percent recovery for 4-methyl-2-pentanone and 2-hexanone was less than the control limits in the LCS/LCSD extracted on 12/30/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-5, MW-11, MW-15, and Trip Blank.

(SVOCs) The percent recovery for phenol was less than the control limits in the LCS/LCSD extracted on 12/30/2013. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-5, MW-11, and MW-15.

(Pesticides) The percent recovery for beta-BHC and delta-BHC was greater than the control limits in the LCS/LCSD extracted on 1/2/2014. There were no positive results for these target analytes in the associated field samples; therefore, no action was required for these outliers.

Laboratory Duplicates

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. For organic analyses, the RPD control limits are specified in the laboratory documents. For inorganic analyses, the RPD control limit for groundwater samples is 20 percent. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met, with the following exceptions:

SDG XR52: (Total Metals) A laboratory duplicate analysis was performed on Sample MW-9-131216. The RPD for copper was greater than the control limit; however, the concentrations of both the sample and duplicate sample were less than five times the reporting limit. In this case the absolute difference is used instead of the RPD. The absolute difference was within the control limit. No action was required for this outlier.

(Dissolved Metals) A laboratory duplicate analysis was performed on Sample MW-9-131216. The RPD for arsenic was greater than the control limit; however, the concentrations of both the sample and duplicate sample were less than five times the reporting limit. In this case the absolute difference is used instead of the RPD. The absolute difference was within the control limit. No action was required for this outlier.

SDG XR59: (Total Metals) A laboratory duplicate analysis was performed on Sample MW-13-20131217. The RPD for arsenic was greater than the control limit; however, the concentrations of both the sample and duplicate sample were less than five times the reporting limit. In this case the absolute difference is used instead of the RPD. The absolute difference was within the control limit. No action was required for this outlier.

SDG XR78: (Total Metals) A laboratory duplicate analysis was performed on Sample MW-14-20131217. The RPD for arsenic was greater than the control limit; however, the concentrations of both the sample and duplicate sample were less than five times the reporting limit. In this case the absolute difference is used instead of the RPD. The absolute difference was within the control limit. No action was required for this outlier.

SDG XS29: (Total Metals) A laboratory duplicate analysis was performed on Sample MW-2R-20131220. The RPD for copper was greater than the control limit; however, the concentrations of both the sample and duplicate sample were less than five times the reporting limit. In this case the absolute difference is used instead of the RPD. The absolute difference was within the control limit. No action was required for this outlier.

SDG XS80: (Dissolved Metals) A laboratory duplicate analysis was performed on Sample MW-11. The RPD for arsenic was greater than the control limit; however, the concentrations of both the sample and duplicate sample were less than five times the reporting limit. In this case the absolute difference is used instead of the RPD. The absolute difference was within the control limit. No action was required for this outlier.

Field Duplicates

In order to assess precision, field duplicate samples were collected and analyzed along with the reviewed sample batches. The duplicate samples were analyzed for the same parameters as the associated parent samples. Precision is determined by calculating the RPD between each pair of samples. If one or more of the sample analytes has a concentration less than five times the reporting limit for that sample,

then the absolute difference is used instead of the RPD. The RPD control limit for groundwater samples is 35 percent.

SDG XS18: One field duplicate sample pair, MW-18-20131219 and MW-DUP-20131219, was submitted with this SDG. The precision criteria for all target analytes were met for this sample pair, with the following exceptions:

The positive results for total mercury, total and dissolved nickel, and phosphoric acid tributyl ester were qualified as estimated (J) in these samples.

Initial Calibrations (ICALs)

All initial calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all percent recoveries were within the control limits of 90% and 110%. For organic analyses, all percent relative standard deviation (%RSD) and relative response factors (RRF) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008).

Continuing Calibrations (CCALs)

All continuing calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all percent recoveries were within the control limits of 90% and 110%. For organic analyses, all percent difference (%D) and relative response factors (RRF) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008), with the following exceptions:

SDG XR52: (SVOCs) The %D for benzoic acid was outside the control limits in the continuing calibration verification performed on 12/31/2013. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-1-20131216, MW-3-131216, MW-4-20131216, MW-9-131216, MW-10-20131216, MW-12-131216, MW-16-20131216, and MW-19-131216.

(Pesticides) The %D for delta-BHC was outside the control limits in the continuing calibration verification performed on 1/15/2014. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-1-20131216, MW-3-131216, MW-4-20131216, MW-9-131216, MW-10-20131216, MW-12-131216, MW-16-20131216, and MW-19-131216.

SDG XR59: (SVOCs) The %D for benzoic acid was outside the control limits in the continuing calibration verification performed on 12/31/2013. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-13-20131217.

(PAHs) The %D for pyrene was outside the control limits in the continuing calibration verification performed on 12/28/2013. The positive result for this target analyte was qualified as estimated (J) in Sample MW-13-20131217.

(Pesticides) The %D for delta-BHC was outside the control limits in the continuing calibration verification performed on 1/15/2014. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-13-20131217.

SDG XR78: (SVOCs) The %D for benzoic acid was outside the control limits in the continuing calibration verification performed on 12/31/2013. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-14-20131217.

(PAHs) The %D for pyrene was outside the control limits in the continuing calibration verification performed on 12/28/2013. The positive results for this target analyte were qualified as estimated (J) in Samples MW-19-131216 and MW-3-131216. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-14-20131217.

(Pesticides) The %D for delta-BHC was outside the control limits in the continuing calibration verification performed on 1/15/2014. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-14-20131217.

SDG XR96: (PAHs) The %D for pyrene was outside the control limits in the continuing calibration verification performed on 12/28/2013. The positive results for this target analyte were qualified as estimated (J) in Samples MW-4-20131216, MW-10-20131216, and MW-16-20131216. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-9-131216 and MW-12-131216.

SDG XS18: (VOCs) The %D for acrolein, vinyl acetate, bromoform, 1,2,3-trichloropropane, and trans-1,4-dichloro-2-butene was outside the control limits in the continuing calibration verification performed on 12/30/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-Dup-20131219, MW-8-20131219, and MW-18-20131219.

(SVOCs) The %D for benzyl alcohol was outside the control limits in the continuing calibration verification performed on 12/30/2013. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-Dup-20131219, MW-8-20131219, and MW-18-20131219.

(PAHs) The %D for pyrene was outside the control limits in the continuing calibration verification performed on 1/2/2014. The positive results for this target analyte were qualified as estimated (J) in Samples MW-Dup-20131219, MW-8-20131219, and MW-18-20131219.

The %D for pyrene was outside the control limits in the continuing calibration verification performed on 12/28/2013. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-1-20131216.

(Pesticides) The %D for delta-BHC was outside the control limits in the continuing calibration verification performed on 1/15/2014. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-Dup-20131219, MW-8-20131219, and MW-18-20131219.

SDG XS29: (VOCs) The %D for acrolein, vinyl acetate, bromoform, 1,2,3-trichloropropane, and trans-1,4-dichloro-2-butene was outside the control limits in the continuing calibration verification performed on 12/30/2013. The reporting limits for these target analytes were qualified as estimated (UJ) in Samples MW-2R-20131220, MW-17-20131220, and Trip Blank.

(SVOCs) The %D for benzyl alcohol was outside the control limits in the continuing calibration verification performed on 12/30/2013. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-2R-20131220 and MW-17-20131220.

(PAHs) The %D for pyrene was outside the control limits in the continuing calibration verification performed on 1/2/2014. The positive result for this target analyte was qualified as estimated (J) in Sample MW-2R-20131220. The reporting limit for this target analyte was qualified as estimated (UJ) in Sample MW-17-20131220.

(Pesticides) The %D for delta-BHC was outside the control limits in the continuing calibration verification performed on 1/15/2014. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-2R-20131220 and MW-17-20131220.

SDG XS80: (VOCs) The %D for 2-chloroethylvinylether was outside the control limits in the continuing calibration verification performed on 1/6/2014. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-5, MW-11, MW-15, and Trip Blank.

(SVOCs) The %D for benzyl alcohol was outside the control limits in the continuing calibration verification performed on 1/9/2014. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-5, MW-11, and MW-15.

(PAHs) The %D for pyrene was outside the control limits in the continuing calibration verification performed on 1/4/2014. The reporting limits for this target analyte were qualified as estimated (UJ) in Samples MW-5, MW-11, and MW-15.

Internal Standards (Low Resolution Mass Spectrometry)

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry instrumentation and are usually added to the sample aliquot after extraction has taken place. The internal standard should be analyzed at the beginning of a 12 hour sample run. For organic analyses, the control limits for internal standard recoveries are 50 percent to 200 percent of the calibration standard. For inorganic analyses, the control limits for internal standard recoveries are 60 percent to 125 percent of the calibration standard. All internal standard recoveries were within the control limits.

Miscellaneous

SDG XR52: (VOCs) The laboratory reported two sets of results for Sample MW-4-20131216, an initial and a dilution (10X), because the result for naphthalene exceeded the instrument calibration range in the initial sample. The initial reported result for naphthalene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

(SVOCs) The laboratory reported two sets of results for Sample MW-4-20131216, an initial and a dilution (3X), because the result for naphthalene exceeded the instrument calibration range in the initial sample. The initial reported result for naphthalene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

(Pesticides) For Sample MW-12-131216, the laboratory flagged the isodrin result with an "X", indicating that the isodrin result was being influenced by the presence of non-target analytes in the sample. For this reason, the positive result for isodrin was qualified as estimated (J) in Sample MW-12-131216, in order to signify a potential high bias.

The laboratory reported two sets of results for aldrin and isodrin in Sample MW-9-131216. The analysis of this sample was initially performed on 1/15/2014; however re-extraction was required because of low surrogate and internal standard recovery. The sample was re-analyzed on 1/24/2014. The results analyzed on 1/15/2014 for aldrin and isodrin were labeled as do-not-report (DNR) and should not be used for any purpose.

SDG XR59: (Pesticides) The laboratory reported two sets of results for aldrin and isodrin in Sample MW-13-20131217. The analysis of this sample was initially performed on 1/15/2014; however

re-extraction was required because of low surrogate and internal standard recovery. The sample was re-analyzed on 1/24/2014. The results analyzed on 1/15/2014 for aldrin and isodrin were labeled as do-not-report (DNR) and should not be used for any purpose.

SDG XR78: (PAHs) The laboratory reported two sets of results for Samples MW-3-131216 and MW-19-131216, an initial and a dilution (20X and 50X, respectively), because the results for 2-methylnaphthalene, 1-methylnaphthalene, acenaphthene, fluorene, phenanthrene, and dibenzofuran exceeded the instrument calibration range in the initial sample. The initial reported results for 2-methylnaphthalene, 1-methylnaphthalene, acenaphthene, fluorene, phenanthrene, and dibenzofuran and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

SDG XR96: (PAHs) The laboratory reported two sets of results for Sample MW-4-20131216, an initial and a dilution (50X), because the results for 2-methylnaphthalene, 1-methylnaphthalene, and naphthalene exceeded the instrument calibration range in the initial sample. The initial reported results for 2-methylnaphthalene, 1-methylnaphthalene, and naphthalene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

The laboratory reported two sets of results for Sample MW-10-20131216, an initial and a dilution (2X), because the result for acenaphthene exceeded the instrument calibration range in the initial sample. The initial reported result for acenaphthene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

SDG XS18: (PAHs) The laboratory reported two sets of results for Samples MW-Dup-20131219 and MW-18-20131219, an initial and a dilution (2X and 3X, respectively), because the results for acenaphthene exceeded the instrument calibration range in the initial sample. The initial reported results for acenaphthene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

SDG XS29: (PAHs) The laboratory reported two sets of results for Sample MW-2R-20131220, an initial and a dilution (20X), because the results for acenaphthene and fluorene exceeded the instrument calibration range in the initial sample. The initial reported results for acenaphthene and fluorene and the dilution reported results for all other target analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

Overall Assessment

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD percent recovery values. Precision was acceptable, as demonstrated by the LCS/LCSD, MS/MSD, and laboratory/field duplicate RPD values. All data are acceptable for the intended use, with the qualifications listed below.

Selected data were qualified as:

- Non-detected (U) because of trip blank contamination
- Do-not-report (DNR) in order to avoid two sets of results reported for the same sample

Selected data were qualified as estimated (J/UJ) because of the following:

- Holding time exceedance
- LCS/LCSD and MS/MSD percent recovery outside of control limits
- Field duplicate precision criteria outliers

- Continuing calibration verification outliers
- Chromatography non-target analyte influences

References

U.S. Environmental Protection Agency (USEPA). "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use," EPA-540-R-08-005. January 2009.

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U.S. Environmental Protection Agency (USEPA). "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," EPA-540-R-10-011. January 2010.

U.S. Environmental Protection Agency (USEPA). "Contract Laboratory Program National Functional Guidelines for Chlorinated Dioxin/Furan Data Review," EPA-540-R-11-016. September 2011.

GeoEngineers, Inc., "Final Work Plan – RI/FS", prepared for the Washington State Department of Ecology on Behalf of 7100 1st Avenue S. Seattle, LLC, GEI File No. 0275-015-01, February 15, 2013.

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Data Validation Report

Project: 7100 1st Avenue South Site (Dock 2 Property)
3rd Round Groundwater Investigation

GEI File No: 00275-015-02

Date: May 11, 2014

This report documents the results of a United States Environmental Protection Agency (USEPA)-defined Stage 2B data validation (USEPA Document 540-R-08-005; USEPA, 2009) of analytical data from the analyses of 3rd Round groundwater samples collected as part of the March 2014 sampling event, and the associated laboratory and field quality control (QC) samples. The samples were obtained from the 7100 1st Avenue South Site (Dock 2 Property) located in Seattle, Washington.

Objective and Quality Control Elements

GeoEngineers, Inc. (GeoEngineers) completed the data validation consistent with the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2008) and Inorganic Superfund Data Review (USEPA 2010) (National Functional Guidelines) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (Appendix B of the Final Work Plan – RI/FS; GeoEngineers, 2013), the data validation included review of the following QC elements:

- Data Package Completeness
- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Laboratory and Field Duplicates
- Initial Calibrations (ICALs)
- Continuing Calibrations (CCALs)

- Internal Standards
- Miscellaneous

Validated Sample Delivery Groups

This data validation included review of the sample delivery groups (SDGs) listed below in Table 1.

TABLE 1: SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDG	Samples Validated
YD20	SW-IN-031714, DUP-SW-031714, SW-EF-031714, MW-4-031714, MW-5-031714, LDW-031714, MW-16-031714, MW-17-031714, MW-19-031714, and DUP-GW-031714 All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis TRIP BLANK_140317 also included; this blank was analyzed for VOCs only
YD40	MW-2R-031814, MW-14-031814, and MW-18-031814 All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis TRIP BLANK_140318 also included; this blank was analyzed for VOCs only
YD60	MW-A-031914, MW-1-031914, MW-3-031914, MW-8-031914, MW-9-031914, MW-10-031914, MW-11-031914, MW-12-031914 All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis
YD75	MW-13-032014, MW-15-032014, GEI-SP1-032014, DUP-SP-1-032014, GEI-SEPE-1-032014 All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis TRIP BLANK_140320 also included; this blank was analyzed for VOCs only

Chemical Analysis Performed

Analytical Resources, Incorporated (ARI) of Tukwila, Washington, performed laboratory analysis on the groundwater samples using one or more of the following methods:

- Gasoline-range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- Diesel and Lube Oil range Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;

- Volatile Organic Compounds (VOCs) by Method SW8260C;
- Semi-volatile Organic Compounds (SVOCs) by Method SW8270D;
- Polycyclic Aromatic Hydrocarbons (PAHs) by Method SW8270-SIM;
- Polychlorinated biphenyls (PCBs) by Method SW8082;
- Metals, Total and Dissolved by Methods 200.8;
- Total Dissolved Solids (TDS) by Method SM2540 and EPA160.1; and
- Chloride by Method EPA300.0

ARI subcontracted to ALS Environmental (ALS) of Kelso, Washington for the following analyses:

- Pesticides by High Resolution Mass-Spectrometry (internal laboratory method CAS SOC-PESTMS2); and
- Mercury, Total and Dissolved by Method EPA 1631E

Data Validation Summary

The results for each of the QC elements are summarized below.

Data Package Completeness

ARI and ALS provided all required deliverables for the data validation according to the National Functional Guidelines. The laboratories followed adequate corrective action processes and all identified anomalies were discussed in the relevant laboratory case narrative.

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. The COCs were accurate and complete when submitted to the lab with the exceptions identified below.

SDG YD20: There was a transcription error in the for Sample DUP-GW-031714 as it was provided to the secondary laboratory for analysis. This sample was printed as DW-GP-031714, and was recognized as DUP-GW-031714 in the GeoEngineers database.

ALL SDGs: (Low-level Mercury by EPA1631) There were no "Total" or "Dissloved" designations on the sample jars for Samples LDW-031714, MW-5-031714, MW-19-031714, MW-2R-031814, MW-14-031814, MW-18-031814, MW-8-031914, MW-9-031914, MW-10-031914, and MW-11-031914 when they arrived at the primary laboratory, even though the field sampling reports document the fact that each of these samples were split into a field filtered portion (dissolved mercury analysis) and an unfiltered portion (total mercury analysis). The primary and secondary laboratories added an "-A" and a "-B" extention to each sample ID, and the lowest result was used to represent the dissolved mercury, while the remaining sample was used to represent the total mercury within GeoEngineers.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for all analyses, with the exceptions identified below. The

sample coolers arrived at the laboratory at the appropriate temperatures of between two and six degrees Celsius, with the exceptions identified below.

SDG YD75: (SVOCs) The %R value for d8-1,4-dioxane was less than the control limits in all samples in this SDG. The samples were re-extracted outside of the recommended holding time of seven days. There were no positive results for these samples, the reporting limits for 1,4-dioxane were qualified as estimated (UJ) in these samples. See Table 1 for a list of samples.

All SDGs: Several sample coolers were received by the laboratory at temperatures slightly outside of the control limits of 2.0 to 6.0 °C. It was determined through professional judgment that since the samples were received by the laboratory the same day they were collected, these temperature should not affect the sample analytical results.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the organic analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added to the samples at a known concentration and percent recoveries are calculated following analysis. All surrogate percent recoveries for field samples were within the laboratory control limits, with the following exception:

SDG YD20: (SVOCs - 1,4-dioxane) The %R value for db-1,4-dioxane was less than the control limit in Sample DUP-GW-031714. The positive result for 1,4-dioxane was qualified as estimated (J) in this sample.

(Chlorinated Pesticides) The %R values for Gamma-BHCD6 and Heptachlor-13C10 were greater than the control limits in MW-4-031714, MW-19-031714, and DUP-GW-031714. In all cases, there were no associated results for these analytes that were greater than the reporting limits. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

SDG YD40: (Chlorinated Pesticides) The %R values for Heptachlor-13C10 and Isodrin-13C12 were greater than the control limits in MW-2R-031814. Additionally, the %R value for Heptachlor-13C10 was greater than the control limit in MW-18-031814. In all cases, there were no associated results for these analytes that were greater than the reporting limits. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

SDG YD60: (Chlorinated Pesticides) The %R values for Aldrin-13C12 were less than the control limits in MW-9-031914. Additionally, the %R value for isodrin-13C10 was less than the control limit in the same sample. For these reasons, the laboratory re-extracted/re-analyzed the sample with slightly better results. However at this point, the sample was no longer with the appropriate holding time. There were no positive results for either of these analytes in the re-extracted results. The reporting limits for these analytes were qualified as estimated (UJ) in this sample.

(VOCs) The %R value for bromofluorobenzene was less than the control limits in the Trip Blank sampled on 3/19/14. In this case, at least three other surrogates were used in the extraction process. No action was required as per NFG guidance documents because the other three surrogate %R values were within their respective control limits, leaving the usability of the data points to be unaffected.

SDG YD75: (SVOCs) The %R value for d8-1,4-dioxane was less than the control limits in all samples in this SDG. The samples were re-extracted outside of the recommended holding time of seven days. See the holding time section of this report for a description of qualifiers for holding time outliers.

(SVOCs-SIM) The %R value for d10-fluoranthene was less than the control limits in Sample MW-9-031914. In this case, at least two other base-neutral surrogates were used in the extraction process. No action was required as per NFG guidance documents because the other two surrogates %R values were within their respective control limits, leaving the usability of the data points to be unaffected.

(Chlorinated Pesticides) The %R values for Gamma-BHCD6 and Heptachlor-13C10 were greater than the control limits in Sample GEI-SEPE-1-032014. In all cases, there were no associated results for these analytes that were greater than the reporting limits. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

Method and Trip Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For all sample batches, method blanks for all applicable methods were analyzed at the required frequency. None of the analytes of interest were detected above the reporting limits in any of the method blanks, with the following exceptions:

SDG YD20: (VOCs) A positive result for hexachlorobutadiene was detected greater than the reporting limit in the method blank extracted/analyzed on 3/25/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination. Additionally, there were positive traces less than the reporting limits for n-butylbenzene, 1,2,4-Trichlorobenzene, and 1,2,4-Trichlorobenzene in the same method blank. There were no positive results for these analytes that were less than the action levels in the associated field samples, therefore no action was required for this blank contamination.

SDG YD40: (VOCs) Positive traces less than the reporting limits for hexachlorobutadiene, 1,2-dichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, and naphthalene were detected in the method blank extracted/analyzed on 3/20/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination.

SDG YD60: (VOCs) Positive traces less than the reporting limits for hexachlorobutadiene, and n-butylbenzene were detected in the method blank extracted/analyzed on 3/28/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination. Additionally, positive traces less than the reporting limits for 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, and naphthalene were detected in the method blank extracted/analyzed on 3/31/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination.

(Chlorinated Pesticides) A positive trace less than the reporting limit for mirex was detected in the method blank extracted/analyzed on 3/26/14. The positive results less than the reporting limits for mirex were qualified as not-detected (U) in Samples MW-A-031914, MW-1-031914, MW-3-031914, MW-8-031914, MW-10-031914, and MW-11-031914.

SDG YD75: (VOCs) Positive traces less than the reporting limits for 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, 1,2,3-trichlorobenzene, 1,2,4-

trichlorobenzene, and naphthalene were detected in the method blank extracted/analyzed on 3/24/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination.

(Chlorinated Pesticides) A positive trace less than the reporting limit for mirex was detected in the method blank extracted/analyzed on 3/26/14. The positive results less than the reporting limits for mirex were qualified as not-detected (U) in Samples GEI-SP1-032014, DUP-SP-1-032014, GEI-SEPE-1-032014, and MW-13-032014.

Trip blanks are analyzed to provide an indication as to whether volatile compounds have cross-contaminated other like samples within the transportation process to the laboratory. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. None of the target analytes were detected above the reporting limits in any of the trip blanks.

SDG YD20: (VOCs) One trip blank was reported in this SDG. There were no positive results for any target analyte in this blank.

SDG YD40: (VOCs) One trip blank was reported in this SDG. There were no positive results for any target analyte in this blank.

SDG YD75: (VOCs) One trip blank was reported in this SDG. There were no positive results for any target analyte in this blank.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

For inorganic methods, the matrix spike is followed by a post-digestion spike sample if any element percent recoveries were outside the control limits in the matrix spike. The percent recovery control limits for matrix spikes are 75% to 125%.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG YD20: (Total Metals) The laboratory performed a matrix spike on Sample SW-EF-031714. The %R value for silver was less than the control limits of 75% to 125%. The reporting limits for silver were qualified as estimated (UJ) in all the Samples in this SDG. See Table 1 above for a list of samples. Additionally, the post-digestion spike sample was within the control limits.

(Dissolved Metals) The laboratory performed a matrix spike on Sample SW-EF-031714. The %R value for silver was less than the control limits of 75% to 125%. The reporting limits for silver were qualified as

estimated (UJ) in all the Samples in this SDG. See Table 1 above for a list of samples. Additionally, the post-digestion spike sample was within the control limits.

(VOCs) The laboratory performed a matrix spike on Sample MW-4-031714. There was no recovery for 2-Chloroethylvinylether in either the MS or the MSD. There was no positive result for this target analyte in the parent sample, therefore the reporting limit was rejected (R) in Sample MW-4-031714.

SDG YD60: (Total Metals) The laboratory performed a matrix spike on Sample MW-A-031914. The %R value for silver was less than the control limits of 75% to 125%. The reporting limits for silver were qualified as estimated (UJ) in all the Samples in this SDG. See Table 1 above for a list of samples. Additionally, the post-digestion spike sample was within the control limits.

(Dissolved Metals) The laboratory performed a matrix spike on Sample MW-A-031914. The %R value for silver was less than the control limits of 75% to 125%. The reporting limits for silver were qualified as estimated (UJ) in all the Samples in this SDG. See Table 1 above for a list of samples. Additionally, the post-digestion spike sample was within the control limits.

(SVOC-SIM) The laboratory performed a matrix spike on Sample MW-3-031914. The %R value for six target analytes were not recovered because of exceedingly high native concentrations of these analytes in the parent sample. No action was required for these outliers because the parent sample concentrations were at least 4 times greater than the concentrations found in the parent sample.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG YD20: (VOCs) The %R value for chlormethane was less than the control limit of 77% in the LCS extracted on 3/25/14; however, the %R for this target analyte was within the control limit in the corresponding LCSD. No action was required for this outlier. Additionally, the %R value for chloroethane was greater than the control limit of 133% in LCS extracted on 3/26/14; however, the %R for this target analyte was within the control limit in the corresponding LCSD. No action was required for this outlier.

SDG YD40: (VOCs) The %R values for acetone and naphthalene were greater than the control limits in the LCS/LCSD extracted on 3/20/14. There were no positive results for these target analytes in any of the associated samples. No action was required for this outlier.

SDGs YD20, YD40: (Chlorinated Pesticides) The %R value for gamma-BHC was greater than the control limit in the LCS extracted on 3/24/14; however, the %R for this target analyte was within the control limit in the corresponding LCSD. No action was required for this outlier. Additionally, the RPD values for gamma-BHC, octachlorostryrene, and endosulfan II exceeded the control limits in the same QC sample set. The positive results for one or more of these analytes were qualified as estimated (J) in Samples SW-EF-031714, SW-IN-031714, and DUP-SW-031714.

(SVOCs) The %R values for butylated hydroxytoluene was less than the control limit in the LCS/LCSD extracted on 3/22/14. Additionally, the RPD value for butylated hydroxytoluene was greater than the control limit of 40% in this same LCS/LCSD sample set. There were no positive results for this analyte in any of the associated field samples. The reporting limits were qualified as estimated (UJ) in all samples in SDG YD20 and YD40. See Table 1 for a list of samples.

YD60: (VOCs) The %R values for chlormethane, chloroethane, 1,2-dibromo-3-chloropropane, and dichlorodifluoromethane were outside of their respective control limits in one of the QC samples in the LCS/LCSD extracted on 3/28/14; however, the %R values for these target analytes were within the control limits in the corresponding LCS/LCSD sample. No action was required for this outliers. Additionally, the %R values for bromomethane, iodomethane, and dichlorodifluoromethane were less than their respective control limits in the LCS/LCSD sample set extracted on 3/31/14. There were no positive results for these analytes in any of the associated samples. The reporting limits for bromomethane, iodomethane, and dichlorodifluoromethane were qualified as estimated (UJ) in Samples, MW-9-031914, MW-10-031914, and MW-11-031914.

(Chlorinated Pesticides) The %R values for beta-BHC, hexachlorobenzene, and endrin aldrhyde were greater than the control limit in the LCS extracted on 3/26/14; however, the %R for these target analytes were within the control limit in the corresponding LCSD. No action was required for these outliers. Additionally, the RPD values for isodrin and endosulfan II exceeded the control limits in the same QC sample set. There were no positive results for either of these analytes in the associated sample. No action was required for these outliers.

YD75: (VOCs) The %R values for acetone and 2-butanone were greater than their respective control limits in the LCS/LCSD sample set extracted on 3/24/14. There were no positive results for 2-butanone in the associated samples. The positive results for acetone were qualified as estimated (J) in Samples MW-15-032014 and GEI-SEPE-1-032014.

Laboratory Duplicates (Conventionals, Fuels, and Metals analyses)

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. For organic analyses, the RPD control limits are specified in the laboratory documents. For inorganic analyses, the RPD control limit for groundwater samples is 20 percent. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met.

Field Duplicates

In order to assess sampling precision, field duplicate samples were collected and analyzed along with the reviewed sample batches. The duplicate samples were analyzed for the same parameters as the associated parent samples. Precision is determined by calculating the RPD between each pair of samples. If one or more of the sample analytes has a concentration less than five times the reporting limit for that sample, then the absolute difference is used to measure precision instead of the RPD. The RPD control limit for groundwater samples is 35 percent.

SDG YD20: Two field duplicate sampling pairs, SW-IN-031714/DUP-SW-031714 and MW-19-031714/DUP-GW-031714, was submitted with this SDG.

The precision criteria for total arsenic (only), total chromium (only), total copper (only), total & dissolved nickel, anthracene, and naphthalene were exceeded in the first sample pair. The positive results for these analytes were qualified as estimated (J) in both samples.

The precision criteria for total & dissolved arsenic, total & dissolved lead, total nickel (only), 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 4,4'-DDD, 4,4'-DDE, anthracene, benzo(a)anthracene , benzo(a)pyrene, benzofluoranthenes (sum), carbozole, chrysene, ethylbenzene, dibenzofuran, fluorene, fluoranthene, dissolved lead, p-Isopropyltoluene, pyrene, PCB-aroclor 1254, PCB-aroclor 1260, p-Cresol (4-methylphenol), sec-butylbenzene, and toluene, gasoline-range hydrocarbons, and diesel-range hydrocarbons were exceeded in the second sample pair. The positive results for these analytes were qualified as estimated (J) in both samples.

SDG YD75: One field duplicate sampling pair, GEI-SP1-032014/DUP-SP-1-032014, was submitted with this SDG.

The precision criteria for total chromium (only), total & dissolved lead, total & dissolved mercury, dissolved nickel, acenaphthene, chrysene, dibenzofuran, naphthalene, and pyrene were exceeded in the first sample pair. The positive results for these analytes were qualified as estimated (J) in both samples.

Initial Calibrations (ICALs)

All initial calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all percent recoveries were within the control limits of 90% and 110%. For organic analyses, all percent relative standard deviation (%RSD) and relative response factors (RRF) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008), with the following exceptions:

ALL SDGs: (Chlorinated Pesticides) The Percent Relative Standard Deviation (%RSD) for Hexachlorobenzene exceeded the control limit of 30% in the Initial Calibration (ICAL) conducted on 4/7/14 (Instrument ID MS21). In all associated samples, the laboratory used a different ICAL to quantitate this analyte. In each case, it was found that these ICALs demonstrated %RSD values that were within the appropriate control limit 30%.

Continuing Calibrations (CCALs)

All continuing calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all percent recoveries were within the control limits of 90% and 110%, with the exceptions below. For organic analyses, all percent difference (%D) and relative response factors (RRF) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008), with the following exceptions:

SDG YD20: (VOCs) The %D values for chloromethane and dichlorodofluoromethane were less than 25% in the continuing calibration standard analyzed on 3/25/14. The positive results and reporting limits for these analytes were qualified as estimated (J/UJ) in all the undiluted samples in this SDG. See Table 1 for a list of samples.

The %D values for chloromethane, acrolein, 1,2-dibromo-3-chloropropane, and dichlorodofluoromethane were less than 25% in the continuing calibration standard analyzed on 3/26/14. No action was required as this calibration standard was only used for diluted analyses.

(PCB Aroclors – Dual Column) The average %D values for Aroclor 1248 were outside of the ±15% (biased high) control limit in the bracketing continuing calibration standards analyzed on primary Column ZB5 on 3/31/14 and 4/1/14. Even though all samples in this SDG were affected by these outliers, the %D values on secondary Column ZB35 were within the appropriate control limits. The laboratory correctly quantitated any associated positive results from the secondary column, leaving the usability of the data points to be unaffected.

SDG YD40: (PCB Aroclors – Dual Column) The average %D values for Aroclor 1248 were outside of the ±15% (biased high) control limit in the bracketing continuing calibration standards analyzed on primary Column ZB5 on 3/25/14. Even though all samples in this SDG were affected by these outliers, the %D values on secondary Column ZB35 were within the appropriate control limits. The laboratory correctly quantitated any associated positive results from the secondary column, leaving the usability of the data points to be unaffected.

(VOCs) The %D value for acetone was outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 3/20/14. There was no associated positive results for this analyte in any of the associated samples in the analytical sequence. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

(SVOCs) The %D values for 4-chloroaniline, 3-nitroaniline, 2,4-dinitrophenol, 4-nitroaniline, 4,6-dinitro-2-methylphenol were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 3/28/14. Additionally, the %D values for 4-nitrophenol and 4-nitroaniline were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 3/31/14. In both cases, there were no associated positive results for these analytes in any of the associated samples in the analytical sequence. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

(Chlorinated Pesticides) The %D values for hexachlorobenzene and isodrin were outside of the ±25% (biased low) control limit in the continuing calibration standard analyzed on 4/8/14. For this reason, the laboratory re-analyzed all the samples in this SDG. Additionally, the %D value for alpha-BHC was outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 4/11/14. The laboratory selectively reported each analyte so that no analytes were associated with a problematic continuing calibration. No action was required.

SDG YD60: (PCB Aroclors – Dual Column) The average %D values for Aroclor 1248 were outside of the ±15% (biased high) control limit in the bracketing continuing calibration standards analyzed on primary Column ZB5 on 3/27/14. Even though all samples in this SDG were affected by these outliers, the %D values on secondary Column ZB35 were within the appropriate control limits. The laboratory correctly quantitated any associated positive results from the secondary column, leaving the usability of the data points to be unaffected.

(VOCs) The %D values for bromomethane, iodomethane, and dichlorodifluoromethane were outside of the ±25% (biased low) control limit in the continuing calibration standard analyzed on 3/31/14. There were no associated positive results for these analytes in any of the associated samples in the analytical sequence. The reporting limits for these compounds were qualified as estimated (UJ) in Samples MW-9-031914, MW-10-031914, and MW-11-031914.

(SVOCs) The %D values for 4-chloroaniline, 3-nitroaniline, 2,4-dinitrophenol, 4-nitroaniline, and 4,6-dinitro-2-methylphenol were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 3/28/14. The %D values for 4-chloroaniline, 3-nitroaniline, and 4-nitroaniline were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 3/29/14. There were no associated positive results for these analytes in any of the

associated samples in the analytical sequence. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

(Chlorinated Pesticides) Initial Calibration ID # CAL13254: The %D values for hexachlorobenzene and isodrin were outside of the ±25% (biased low) control limit in the continuing calibration standard analyzed on 4/8/14. For this reason, the laboratory re-analyzed all the samples in this SDG. Additionally, the %D values for gamma-BHC, and endrin were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 4/9/14. The laboratory selectively reported each analyte so that no analytes were associated with a problematic continuing calibration. No action was required.

(Chlorinated Pesticides) Initial Calibration ID # CAL13259: The %D values for alpha-BHC were outside of the ±25% (biased high) control limit in the continuing calibration standards analyzed on 4/11/14 and 4/14/14. The laboratory selectively reported each analyte so that no analytes were associated with a problematic continuing calibration. No action was required.

YD75: (VOCs) The %D values for acrolein, acetone, and 2-butanone were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 3/24/14. The positive results for acetone were qualified as estimated (J) in Samples MW-15-032014 and GEI-SEPE-1-032014.

(SVOCs) The %D values for 4-nitrophenol and 4-nitroaniline were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 3/31/14. The %D values for 4-chloroaniline, 3-nitroaniline, and 4-nitroaniline were outside of the ±25% (biased high) control limit in the continuing calibration standard analyzed on 4/1/14. There were no positive results associated with these CCVs. No action was required for any of these outliers.

ALL SDGs: (Metals by EPA 200.8) The laboratory noted that there were several %D values for various target analytes that were outside of the control limits of 90% to 110%. However, after screening the analytical run reports it was found that no data points were affected by these outliers because the samples were analyzed at different dilutions. All reported data points were appropriately bracketed by CCVs that were within the respective control limits. No action was taken.

Internal Standards (Low Resolution Mass Spectrometry)

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry instrumentation and are usually added to the sample aliquot after extraction has taken place. The internal standard should be analyzed at the beginning of a 12 hour sample run. For organic analyses, the control limits for internal standard recoveries are 50 percent to 200 percent of the calibration standard. For inorganic analyses, the control limits for internal standard recoveries are 60 percent to 125 percent of the calibration standard. All internal standard recoveries were within the control limits.

Miscellaneous

SDG YD20: (SVOC-SIM) The laboratory reported two sets of results for four samples (summarized below), an initial and a dilution (50X or 100X), because the results for several analytes exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-4-031714 (100x)	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene

MW-16-031714 (50x)	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Fluorene, Phenanthrene, and Dibenzofuran
MW-19-031714 (50x)	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Fluorene, Phenanthrene, and Dibenzofuran
DUP-GW-031714 (100x)	Naphthalene, 1-Methylnaphthalene, 2-Methylnaphthalene

(VOCs) The laboratory reported two sets of results for two samples (summarized below), an initial and a dilution (10X), because the results for these analytes exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-4-031714 (10x)	Naphthalene
DUP-GW-031714 (10x)	Naphthalene

(SVOCs – 1.4-Dioxane) The laboratory reported two sets of results for 1,4-Dioxane in Sample DUP-GW-031714. The extraction of this sample was initially performed on 3/20/14; however re-extraction was required because of low surrogate recovery. The sample was re-extracted on 3/27/14, outside of the hold time of 7 days. The results analyzed on 3/27/14 for 1,4-dioxane were labeled as do-not-report (DNR) and should not be used for any purpose.

(PCB Aroclors) The laboratory reported two sets of results for Sample MW-17-031714, an initial and a dilution (5X), because the results for Aroclor 1248, Aroclor 1254, and Aroclor 1260 exceeded the instrument calibration range. The initial reported results for these analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

Additionally, the column confirmation %D value for Aroclor 1254 exceeded the control limit of 40% in Sample DUP-SW-031714. The positive result for this compound was qualified as tentatively identified (NJ) in this sample.

SDG YD40: (SVOC-SIM) The laboratory reported two sets of results for two samples (summarized below), an initial and a dilution (10X or 3X), because the results for several analytes exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-2R-031814 (10x)	1-Methylnaphthalene, Acenaphthene, Fluorene
MW-18-031814 (3x)	Acenaphthene

SDG YD60: (SVOC-SIM) The laboratory reported two sets of results for four samples (summarized below), an initial and a dilution (10X or 3X), because the results for several analytes exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-A-031914 (10x)	Acenaphthene
MW-3-031941 (20X)	1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Fluorene, Phenanthrene, and Dibenzofuran
MW-12-031914	Acenaphthene
MW-10-031914	Acenaphthene

SDG YD75: (SVOC) The laboratory reported two sets of 1,4-dioxane results for all samples, an initial and a re-extraction, because the initial results were reported with low surrogate %R values. The initial reported results for the 1,4-dioxane results were labeled as do-not-report (DNR) and should not be used for any purpose.

Overall Assessment

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD percent recovery values. Precision was acceptable, as demonstrated by the LCS/LCSD, MS/MSD, laboratory duplicate, and field duplicate RPD values. All data are acceptable for the intended use, with the qualifications listed below.

Selected data were qualified as:

- Non-detected (U) because of method blank contamination
- Do-not-report (DNR) in order to avoid two sets of results reported for the same sample

Selected data were qualified as estimated (J/UJ/NJ) because of the following:

- Holding time exceedance
- MS/MSD percent recovery outside of control limits
- Field duplicate precision criteria outliers
- Continuing calibration verification outliers
- Column Confirmation Outliers from a dual-column method

Selected data were rejected (R) because of the following:

- MS/MSD percent recovery less than 10%

References

U.S. Environmental Protection Agency (USEPA). "Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use," EPA-540-R-08-005. January 2009.

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GeoEngineers, Inc., "Final Work Plan – RI/FS", prepared for the Washington State Department of Ecology on Behalf of 7100 1st Avenue S. Seattle, LLC, GEI File No. 0275-015-01, February 15, 2013.

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Data Validation Report

Project: 7100 1st Avenue South Site (Dock 2 Property)
4st Round Groundwater Investigation

GEI File No: 00275-015-02

Date: October 9, 2014

This report documents the results of a United States Environmental Protection Agency (USEPA)-defined Stage 2B data validation (USEPA Document 540-R-08-005; USEPA, 2009) of analytical data from the analyses of 4th Round groundwater samples collected as part of the July 2014 sampling event, and the associated laboratory and field quality control (QC) samples. The samples were obtained from the 7100 1st Avenue South Site (Dock 2 Property) located in Seattle, Washington.

Objective and Quality Control Elements

GeoEngineers, Inc. (GeoEngineers) completed the data validation consistent with the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2008) and Inorganic Superfund Data Review (USEPA 2010) (National Functional Guidelines) to determine if the laboratory analytical results meet the project objectives and are usable for their intended purpose. Data usability was assessed by determining if:

- The samples were analyzed using well-defined and acceptable methods that provide reporting limits below applicable regulatory criteria;
- The precision and accuracy of the data are well-defined and sufficient to provide defensible data; and
- The quality assurance/quality control (QA/QC) procedures utilized by the laboratory meet acceptable industry practices and standards.

In accordance with the Quality Assurance Project Plan (Appendix B of the Final Work Plan – RI/FS; GeoEngineers, 2013), the data validation included review of the following QC elements:

- Data Package Completeness
- Chain-of-Custody Documentation
- Holding Times and Sample Preservation
- Surrogate Recoveries
- Method and Trip Blanks
- Matrix Spikes/Matrix Spike Duplicates
- Laboratory Control Samples/Laboratory Control Sample Duplicates
- Laboratory and Field Duplicates
- Initial Calibrations (ICALs)
- Continuing Calibrations (CCALs)

- Internal Standards
- Miscellaneous

Validated Sample Delivery Groups

This data validation included review of the sample delivery groups (SDGs) listed below in Table 1.

TABLE 1: SUMMARY OF VALIDATED SAMPLE DELIVERY GROUPS

Laboratory SDG	Samples Validated
YR61 (K1407201)	SP-1-71414, MW-8-140714, MW-9-140714, MW-11-71414, MW-13-140714, MW-14-140714, SEEP-1-71414, SEEP-1-DUP-71414 All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis TRIP BLANK-71414 also included; this blank was analyzed for VOCs only
YR80 (K1407284)	MW-1-71514, MW-10-71514, MW-12-71514, MW-15-71514 All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis TRIP BLANK-71514 also included; this blank was analyzed for VOCs only
YS07 (K1407355)	MW-3-71614, MW-4-71614, MW-17-71614, MW-18-71614, MW-18-DUP-71614, MW-19-71614, LDW-71614, All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis TRIP BLANK-71614 also included; this blank was analyzed for VOCs only
YS33 (K1407454)	MW-5-71714, MW-16-71714, MW-2R-71714 All Field Sample(s) submitted to sub-contracted laboratory for Mercury and Pesticides analysis TRIP BLANK-71714 also included; this blank was analyzed for VOCs only

Chemical Analysis Performed

Analytical Resources, Incorporated (ARI) of Tukwila, Washington, performed laboratory analysis on the groundwater samples using one or more of the following methods:

- Gasoline-range Hydrocarbons (NWTPH-Gx) by Method NWTPH-Gx;
- Diesel and Lube Oil range Hydrocarbons (NWTPH-Dx) by Method NWTPH-Dx;

- Volatile Organic Compounds (VOCs) by Method SW8260C;
- Semi-volatile Organic Compounds (SVOCs) by Method SW8270D;
- Polycyclic Aromatic Hydrocarbons (PAHs) by Method SW8270-SIM;
- Polychlorinated biphenyls (PCBs) by Method SW8082;
- Metals, Total and Dissolved by Methods 200.8;
- Total Dissolved Solids (TDS) by Method SM2540 and
- Chloride by Method EPA300.0

ARI subcontracted to ALS Environmental (ALS) of Kelso, Washington for the following analyses:

- Pesticides by High Resolution Mass-Spectrometry (internal laboratory method CAS SOC-PESTMS2); and
- Mercury, Total and Dissolved by Method EPA 1631E

Data Validation Summary

The results for each of the QC elements are summarized below.

Data Package Completeness

ARI and ALS provided all required deliverables for the data validation according to the National Functional Guidelines. The laboratories followed adequate corrective action processes and all identified anomalies were discussed in the relevant laboratory case narrative.

Chain-of-Custody Documentation

Chain-of-custody (COC) forms were provided with the laboratory analytical reports. The COCs were accurate and complete when submitted to the lab with the exceptions identified below.

Holding Times and Sample Preservation

The sample holding time is defined as the time that elapses between sample collection and sample analysis. Maximum holding time criteria exist for each analysis to help ensure that the analyte concentrations found at the time of analysis reflect the concentration present at the time of sample collection. Established holding times were met for all analyses, with the exceptions identified below. The sample coolers arrived at the laboratory at the appropriate temperatures of between two and six degrees Celsius, with the exceptions identified below.

All SDGs: Several sample coolers were received by the laboratory at temperatures slightly outside of the control limits of 2.0 to 6.0 °C. It was determined through professional judgment that since the samples were received by the laboratory the same day they were collected, these temperature should not affect the sample analytical results.

SDG YR80: (Chlorinated Pesticides) The recommended hold time of 14 days was not met for chlorpyrifos in Sample MW-10-71514. There was no positive result for this compound in this sample; therefore the reporting limit was qualified as estimated (UJ) in this sample.

SDG YS07/YS33: (SVOCs) The recommended hold time of 7 days was not met for the re-extracted batch of samples in these SDGs. The original batch of samples was not used in this case because of QC

samples demonstrating a low bias. See the Miscellaneous section of this report for a description. The positive results and reporting limits for all target analytes were qualified as estimated (J/UJ) in these samples.

SDG YS07: (Chlorinated Pesticides) The recommended hold time of 14 days was not met for chlorpyrifos in Samples MW-3-71614 and MW-18-71614. There were no positive results for this compound in these samples; therefore the reporting limits were qualified as estimated (UJ) in these samples.

Surrogate Recoveries

A surrogate compound is a compound that is chemically similar to the organic analytes of interest, but unlikely to be found in any environmental sample. Surrogates are used for organic analyses and are added to all samples, standards, and blanks to serve as an accuracy and specificity check of each analysis. The surrogates are added to the samples at a known concentration and percent recoveries are calculated following analysis. All surrogate percent recoveries for field samples were within the laboratory control limits, with the following exceptions:

SDG YR61: (PAHs by SIM) The %R value for d14-dibenzo(a,h)anthracene was less than the control limits in Sample MW-14-140714. In this case, at least two other surrogates were used in the extraction process. No action was required as per NFG guidance documents because the other two surrogate %R values were within their respective control limits, leaving the usability of the data points to be unaffected.

(Chlorinated Pesticides) The %R values for gamma-BHC-D6 and heptachlor-13C-10 were greater than the control limits in Sample SEEP-1-71414. However, the associated target analytes represented by the two surrogates were not detected in the sample. No action was required because these outliers are indicative of a high bias. The %R values for gamma-BHC-D6, hexachlorobenzene-13C6, heptachlor-13C-10, and endrin keytone 13C12 were greater than the control limits in Sample SEEP-1-DUP-71414. The associated target analyte hexachlorobenzene was the only target analyte that reported a positive result, and was qualified as estimated (J) in this sample. The %R values for heptachlor-13C-10 was greater than the control limit in Sample SP-1-71414. The associated target analyte hexachlorobenzene was the only target analyte that reported a positive result, and was qualified as estimated (J) in this sample. There were no recovery values for aldrin-13C12 and isodrin-13C12 in Sample MW-9-140714. The reporting limits for the target analytes aldrin and isodrin were rejected (R) in this sample.

SDG YS07: (Chlorinated Pesticides) The %R values for gamma-BHC-D6 and heptachlor-13C-10 were greater than the control limits in Samples MW-19-71614 and MW-4-71614. The positive results for heptachlor were qualified as estimated (J) in these samples. The %R values for gamma-BHC-D6 and heptachlor-13C-10 were greater than the control limits in Samples MW-18-71614 and MW-18-DUP-71614. However, the associated target analytes represented by the two surrogates were not detected in the sample. No action was required because these outliers are indicative of a high bias.. The %R value for gamma-BHC-D6 was greater than the control limit in Sample MW-17-71614. The associated target analytes alpha-BHC and delta-BHC were the only target analytes that reported a positive result, and were qualified as estimated (J) in this sample.

SDG YS33: (Chlorinated Pesticides) The %R values for gamma-BHC-D6 and heptachlor-13C-10 were greater than the control limits in Samples MW-5-71714 and MW-2R-71714. However, the associated target analytes represented by the two surrogates were not detected in the sample. No action was required because these outliers are indicative of a high bias.

Method Blanks

Method blanks are analyzed to ensure that laboratory procedures and reagents do not introduce measurable concentrations of the analytes of interest. A method blank was analyzed with each batch of samples, at a frequency of 1 per 20 samples. For all sample batches, method blanks for all applicable methods were analyzed at the required frequency. None of the analytes of interest were detected above the reporting limits in any of the method blanks, with the following exceptions:

SDG YR61: (NWTPH-Dx) A positive result for diesel-range organics was detected greater than the reporting limit in the method blank extracted/analyzed on 7/22/14. For this reason, the laboratory re-extracted and re-analyzed the entire analytical batch of samples which were associated with a method blank that reported no positive results. Only the second analytical batch was used for reporting in this sampling event. See the Miscellaneous section.

(VOCs) A positive result for hexachlorobutadiene was detected greater than the reporting limit in the method blank extracted/analyzed on 7/17/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination.

(SVOCs) A positive result for diethylphthalate was detected less than the reporting limit in the method blank extracted/analyzed on 7/19/14. The positive result for diethylphthalate was qualified as not-detected (U) in Sample MW-14-140714. In this case, the result was elevated to the reporting limit through the validation process.

SDG YR80: (VOCs) A positive result for hexachlorobutadiene was detected greater than the reporting limit in the method blank extracted/analyzed on 7/22/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination.

(NWTPH-Dx) A positive result for diesel-range organics was detected greater than the reporting limit in the method blank extracted/analyzed on 7/22/14. For this reason, the laboratory re-extracted and re-analyzed the entire analytical batch of samples which were associated with a method blank that reported no positive results. Only the second analytical batch was used for reporting in this sampling event. See the Miscellaneous section.

(Chlorinated Pesticides) A positive trace less than the reporting limit for heptachlor was detected in the method blank extracted on 7/22/14. The positive results less than the reporting limits for heptachlor were qualified as not-detected (U) in Sample MW-1-71514. A positive trace less than the reporting limit for alpha-BHC was detected in the same method blank. There were no positive results for this compound in the associated field samples, no action was required.

Also, a positive result greater than the reporting limit for chlorpyrifos was found in the same method blank. This target analyte was also detected in Sample MW-10-71514. For this reason, the laboratory re-extracted Sample MW-10-71514 along with a new set of QC samples with no blank contamination and reported only the second analysis for this analyte only. No method blank qualification was required, although the holding time had expired in this case. See Holding Time section for a description.

SDG YS07/YS33: (VOCs) A positive result for hexachlorobutadiene was detected greater than the reporting limit in the method blank extracted/analyzed on 7/24/14. There were no positive results for this analyte in the associated field samples, therefore no action was required for this blank contamination.

(Chlorinated Pesticides) A positive trace less than the reporting limit for 4,4'-DDE was detected in the method blank extracted on 7/24/14. The only associated positive results for this target analyte were

greater than the reporting limits in each sample. These results were judged to be unaffected by method blank contamination and no qualifiers were applied.

Trip Blanks

Trip blanks are analyzed to provide an indication as to whether volatile compounds have cross-contaminated other like samples within the transportation process to the laboratory. In cases were target analytes are qualified as non-detected because of blank contamination, the new reporting limit is elevated to the level of the former concentration reported in the sample. None of the target analytes were detected above the reporting limits in any of the trip blanks.

SDG YR61: (VOCs) One trip blank was reported in this SDG. There were no positive results for any target analyte in this blank.

SDG YR80: (VOCs) One trip blank was reported in this SDG. There was a positive result for methylene chloride in this blank. However, there were no positive results for this compound in any of the associated field samples, no action was required.

SDG YS07: (VOCs) One trip blank was reported in this SDG. There was a positive result for methylene chloride and acetone in this blank. The positive result for acetone was qualified as not-detected (U) in Samples MW-3-71614, MW-17-71614, MW-18-71614. MW-18-DUP-71614 and LDW-71614, In this case, the result was elevated to the reporting limit through the validation process.

SDG YS33: (VOCs) One trip blank was reported in this SDG. There were no positive results for any target analyte in this blank.

Matrix Spikes/Matrix Spike Duplicates

Since the actual analyte concentration in an environmental sample is not known, the accuracy of a particular analysis is usually inferred by performing a matrix spike (MS) analysis on one sample from the associated batch, known as the parent sample. One aliquot of the sample is analyzed in the normal manner and then a second aliquot of the sample is spiked with a known amount of analyte concentration and analyzed. From these analyses, a percent recovery is calculated. Matrix spike duplicate (MSD) analyses are generally performed for organic analyses as a precision check and analyzed in the same sequence as a matrix spike. Using the result values from the MS and MSD, the relative percent difference (RPD) is calculated. The percent recovery control limits for MS and MSD analyses are specified in the laboratory documents, as are the RPD control limits for MS/MSD sample sets.

For inorganic methods, the matrix spike is followed by a post-digestion spike sample if any element percent recoveries were outside the control limits in the matrix spike. The percent recovery control limits for matrix spikes are 75% to 125%.

One MS/MSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG YR80: (VOCs) The laboratory performed a matrix spike on Sample MW-1-71514. The %R values for chloromethane, vinyl acetate, 2-chloroethylvinylether, and acrolein were less than the control limits in the MS and MSD. There were no positive results for these target analytes in the parent sample; therefore, the reporting limits for these analytes were qualified as estimated (UJ) in Sample MW-1-71514. The %R values for 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene, and naphthalene were greater than the control limits in the MS and MSD. There were no positive results for these target analytes in the parent sample; therfore, no action was required. The %R value for trans-1,4-dichloro-2-butene was less than the control

limit in the MSD. The corresponding MS %R value for this compound was within the control limits, no action was required.

SDG YS07: (VOCs) The laboratory performed a matrix spike on Sample MW-19-71614. The %R values for 2-chloroethylvinylether were less than 10% in the MS and MSD. There was no positive result for this target analyte in the parent sample; therefore, the reporting limit for this analyte was rejected (R) in Sample MW-19-71614. The %R values for acrylonitrile were greater than the control limits in the MS and MSD. There were no positive results for this analyte in the parent sample; therfore, no action was required. The %R values for bromomethane and naphthalene were outside of the control limits in either the MS or MSD. However, in both cases, the corresponding MS/MSD %R values for these analytes were within the control limits, no action was required.

(Metals) The laboratory performed an MS/MSD on Sample MW-19-71614. The %R values for total silver and dissolved silver were less than the control limit. The reporting limits for total silver and dissolved silver were qualified as estimated (UJ) in all samples in this SDG. See Table 1 for a list of samples.

Laboratory Control Samples/Laboratory Control Sample Duplicates

A laboratory control sample (LCS) is a blank sample that is spiked with a known amount of analyte and then analyzed. An LCS is similar to an MS, but without the possibility of matrix interference. Given that matrix interference is not an issue, the LCS/LCSD control limits for accuracy and precision are usually more rigorous than for MS/MSD analyses. Additionally, data qualification based on LCS/LCSD analyses would apply to all samples in the associated batch, instead of just the parent sample. The percent recovery control limits for LCS and LCSD analyses are specified in the laboratory documents, as are the RPD control limits for LCS/LCSD sample sets.

One LCS/LCSD analysis should be performed for every analytical batch or every 20 field samples, whichever is more frequent. The frequency requirements were met for all analyses and the percent recovery and RPD values were within the proper control limits, with the following exceptions:

SDG YR61: (VOCs) The %R values for 1,2,4-trichlorobenzene and 1,2,3-trichlorobenzene were greater than the respective control limits in the LCS/LSC extracted on 7/17/14. There were no positive results for these target analytes in any of the associated samples. No action was required for these outliers.. Additionally, the %R value for acrylonitrile was greater than the control limit of 123% in the LCSD in the same analytical batch; however, the %R for this target analyte was within the control limit in the corresponding LCS. No action was required for this outlier.

(SVOCs) The %R values for 4-chloroaniline and 3-nitroaniline were greater than the respective control limits in the LCS/LSC extracted on 7/19/14. There were no positive results for these target analytes in any of the associated samples. No action was required for these outliers.

(Chlorinated Pesticides) The %R values for beta-BHC and delta-BHC were greater than the control limit in the LCS/LCSD extracted on 7/18/14. There were no positive results for these target analytes in any of the associated samples. No action was required for these outliers.

SDG YR80: (VOCs) The %R values for 1,2,3-trichlorobenzene were greater than the respective control limits in the LCS/LSC extracted on 7/22/14. There were no positive results for these target analytes in any of the associated samples. No action was required for these outliers. Additionally, the %R value for acrylonitrile was less than the control limit of 76% in the LCS in the same analytical batch; however, the %R for this target analyte was within the control limit in the corresponding LCSD. No action was required for this outlier.

(SVOCs) The %R values for 4-chloroaniline and 3-nitroaniline were greater than the respective control limits in the LCS/LSC extracted on 7/19/14. There were no positive results for these target analytes in any of the associated samples. No action was required for these outliers.

(Chlorinated Pesticides) The %R values for beta-BHC were greater than the control limit in the LCS/LCSD extracted on 7/24/14. There were no positive results for this target analyte in any of the associated samples. No action was required for these outliers.

Laboratory Duplicates (Conventionals, Fuels, and Metals analyses)

Internal laboratory duplicate analyses are performed to monitor the precision of the analyses. Two separate aliquots of a sample are analyzed as distinct samples in the laboratory and the RPD between the two results is calculated. Duplicate analyses should be performed once per analytical batch. If one or more of the samples used has a concentration less than five times the reporting limit for that sample, the absolute difference is used instead of the RPD. For organic analyses, the RPD control limits are specified in the laboratory documents. For inorganic analyses, the RPD control limit for groundwater samples is 20 percent. Laboratory duplicates were analyzed at the proper frequency and the specified acceptance criteria were met, with the following exceptions:

SDG YS07: (Metals) The laboratory performed an internal duplicate on Sample MW-19-71614. The absolute difference values for total lead was greater than the control limit. The positive results and reporting limits for total lead were qualified as estimated (J/UJ) in all samples in this SDG. See Table 1 for a list of samples.

Field Duplicates

In order to assess sampling precision, field duplicate samples were collected and analyzed along with the reviewed sample batches. The duplicate samples were analyzed for the same parameters as the associated parent samples. Precision is determined by calculating the RPD between each pair of samples. If one or more of the sample analytes has a concentration less than five times the reporting limit for that sample, then the absolute difference is used to measure precision instead of the RPD. The RPD control limit for groundwater samples is 35 percent.

SDG YR61: One field duplicate sampling pair, SEEP-1-71414/SEEP-1-DUP-71414, was submitted with this SDG.

The precision criteria for Hexachlorobenzene, gamma-Chlordane, alpha-Chlrodane, cis-Nonachlor, trans-Nonachlor, 2,4-DDE, 4,4'-DDE, 2,4'-DDD, 4,4'-DDD, 2,4'-DDT, 4,4'-DDT, dieldrin, and endosulfan II were exceeded in the first sample pair. The positive results for these analytes were qualified as estimated (J) in both samples.

SDG YS07: One field duplicate sampling pair, MW-18-71614/ MW-18-DUP-71614, was submitted with this SDG.

Initial Calibrations (ICALs)

All initial calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all percent recoveries were within the control limits of 90% and 110%. For organic analyses, all percent relative standard deviation (%RSD) and relative response factors (RRF) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008).

Continuing Calibrations (CCALs)

All continuing calibrations were conducted according to the laboratory methods and consisted of the appropriate number of standards. For inorganic analyses, all percent recoveries were within the control limits of 90% and 110%, with the exceptions below. For organic analyses, all percent difference (%D) and relative response factors (RRF) values were within the control limits stated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA, 2008), with the following exceptions:

SDG YR61: (VOCs) The %D values for 2-chloroethyl-vinyl-ether, 1,2,4-trichlorobenzene, and 1,2,3-trichlorobenzene were greater than 25% in the continuing calibration standard analyzed on 7/17/14. There were no associated positive results for these analytes in any of the associated samples in the analytical sequence. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

(SVOCs) The %D value for 3,3'-dicholorobenzidine was less than -25% in the continuing calibration standard analyzed on 7/23/14. There were no associated positive results for this analyte in any of the associated samples in the analytical sequence. The reporting limits for this analyte were qualified as estimated (UJ) in Samples SP-1-71414, SEEP-1-71414, and SEEP-1-DUP-71414.

SDG YR80: (VOCs) The %D values for acrolein, acrylonitrile, vinyl acetate, 2-chloroethyl vinyl ether, 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene, and hexachlorobutadiene were greater than 25% in the continuing calibration standard analyzed on 7/22/14. There were no associated positive results for these analytes in any of the associated samples in the analytical sequence. No action was required because the outliers were indicative of a high instrumental bias, leaving the usability of the data points to be unaffected.

(SVOCs) The %D value for 3,3'-dicholorobenzidine was less than -25% in the continuing calibration standard analyzed on 7/23/14. There were no associated positive results for this analyte in any of the associated samples in the analytical sequence. The reporting limits for this analyte were qualified as estimated (UJ) in Samples MW-1-71514, MW-10-71514, MW-12-71514, MW-15-71514.

SDG YS07/YS33: (SVOCs) The %D value for 2,4-dinitrophenol was less than -25% in the continuing calibration standard analyzed on 8/25/14. There were no associated positive results for this analyte in any of the associated samples in the analytical sequence. The reporting limits for this analyte were qualified as estimated (UJ) in the re-extracted analyses of Samples MW-2R-71714, MW-3-71614, MW-5-71714, MW-16-71714, MW-17-71614, MW-18-71614, MW-18-DUP-71614, and LDW-71614.

Internal Standards (Low Resolution Mass Spectrometry)

Like the surrogate, an internal standard is a compound that is chemically similar to the analytes of interest, but unlikely to be found in any environmental sample. Internal standards are used only for the mass spectrometry instrumentation and are usually added to the sample aliquot after extraction has taken place. The internal standard should be analyzed at the beginning of a 12 hour sample run. For organic analyses, the control limits for internal standard recoveries are 50 percent to 200 percent of the calibration standard. For inorganic analyses, the control limits for internal standard recoveries are 60 percent to 125 percent of the calibration standard. All internal standard recoveries were within the control limits.

Miscellaneous

SDG YR61: (NWTPH-Dx) The laboratory reported two sets of results for all samples in this SDG because diesel-range organics contamination was found in the initial method blank. Upon re-extraction, the method blank was clear of any possible contamination. The initial reported results were labeled as do-

not-report (DNR) and should not be used for any purpose. Only the results from the second batched extraction should be used for this sampling event.

(SVOC-SIM) The laboratory reported two sets of results Sample MW-14-140714 (summarized below), an initial and a dilution (5X), because the results for one analyte exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-14-140714	2-Methylnaphthalene

SDG YR80: (NWTPH-Dx) The laboratory reported two sets of results for all samples in this SDG because diesel-range organics contamination was found in the initial method blank. Upon re-extraction, the method blank was clear of any possible contamination. The initial reported results were labeled as do-not-report (DNR) and should not be used for any purpose. Only the results from the second batched extraction should be used for this sampling event.

(SVOC-SIM) The laboratory reported two sets of results for two samples (summarized below), an initial and a dilution (10X), because the results for one analyte exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-10-71514	Acenaphthene
MW-12-71514	Acenaphthene

(PCB Aroclors) Additionally, the column confirmation %D value for Aroclor 1254 exceeded the control limit of 40% in Sample MW-15-71514. The positive result for this compound was qualified as tentatively identified (NJ) in this sample.

SDG YS07: (SVOCs) The laboratory re-extracted and reported two sets of results for all samples in this SDG because the batched LCS/LCSD used for this sample set exhibited several low %R values. Upon re-extraction, the samples were considered to be outside of the recommended holding times. For this reason, the re-extracted batch of data was chosen to be used instead of the batch that represented an overall low bias because of LCS/LCSD outliers. The original reported results were labeled as do-not-report (DNR) and should not be used for any purpose. Only the results from the re-extraction should be used for this sampling event.

(SVOC-SIM) The laboratory reported two sets of results for three samples (summarized below), an initial and a dilution (100x, 50x, 100x), because the results for several analytes exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-19-71614 (100x)	1-methylnaphthalene, 2-methylnaphthalene, naphthalene, acenaphthene, phenanthrene, fluorene
MW-3-71614 (50x)	1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, phenanthrene, fluorene, dibenzofuran

MW-4-71614 (100x)	1-methylnaphthalene, 2-methylnaphthalene, naphthalene

(PCB Aroclors) Additionally, the column confirmation %D value for Aroclor 1254 exceeded the control limit of 40% in Sample LDW-71614. The positive result for this compound was qualified as tentatively identified (NJ) in this sample.

SDG YS33: (SVOCs) The laboratory re-extracted and reported two sets of results for all samples in this SDG because the batched LCS/LCSD used for this sample set exhibited several low %R values. Upon re-extraction, the samples were considered to be outside of the recommended holding times. For this reason, the re-extracted batch of data was chosen to be used instead of the batch that represented an overall low bias because of LCS/LCSD outliers. The original reported results were labeled as do-not-report (DNR) and should not be used for any purpose. Only the results from the re-extraction should be used for this sampling event.

(SVOC-SIM) The laboratory reported two sets of results for two samples (summarized below), an initial and a dilution (20x), because the results for several analytes exceeded the instrument calibration range in the initial sample. The initial reported results for the listed analytes and the diluted results for all other analytes were labeled as do-not-report (DNR) and should not be used for any purpose.

MW-16-71714 (20x)	1-methylnaphthalene, 2-methylnaphthalene, naphthalene, acenaphthene, phenanthrene, fluorene, dibenzofuran
MW-2R-71714 (20x)	1-methylnaphthalene, acenaphthene, fluorene

Overall Assessment

As was determined by this data validation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the surrogate, LCS/LCSD, and MS/MSD percent recovery values. Precision was acceptable, as demonstrated by the LCS/LCSD, MS/MSD, laboratory duplicate, and field duplicate RPD values. All data are acceptable for the intended use, with the qualifications listed below.

Selected data were qualified as:

- Non-detected (U) because of method blank contamination
- Do-not-report (DNR) in order to avoid two sets of results reported for the same sample

Selected data were qualified as estimated (J/UJ/NJ) because of the following:

- Holding time exceedance
- MS/MSD percent recovery outside of control limits
- Field duplicate precision criteria outliers
- Continuing calibration verification outliers
- Column Confirmation Outliers from a dual-column method

Selected data were rejected (R) because of the following:

- MS/MSD percent recovery less than 10%

References

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APPENDIX J
Pacific Geophysics Geophysical Survey Report

PACIFIC GEOPHYSICS
Applied Geophysics

GEOPHYSICAL SURVEY LETTER REPORT

GeoEngineers – Redmond
8410 154th Avenue NE
Redmond, WA 98052

July 2, 2013
Project Number: 130306

Geophysical Survey
Site Dock 2 Property
7100 1st Avenue SE
Seattle, Washington

This letter report briefly describes a geophysical survey conducted at the above location for the purpose of detecting a possible underground storage tank (UST).

The Site is a busy container shipping company and as such, it contained many large metallic surface objects that produced significant magnetic anomalies, thus limiting the effectiveness of the magnetic survey. Tall stacks of metal shipping containers created magnetic interference outward 10 to 30 feet in some locations, making it difficult to detect buried metallic objects within that zone. Metal equipment, tractor-trailer trucks and office trailers also created interference, especially along the survey boundaries.

A Geometrics G-858 Cesium magnetometer was used to scan the part of the Site that was expected to overly the target UST. The survey area was established by the client. The surface of the Site was asphalt and concrete. The concrete area appeared to be related to a former building, possibly the floor.

A Schonstedt Magnetic Gradiometer, an Aqua-Tronics A6 Tracer metal detector and a GSSI SIR 2000 GPR system coupled to a 270 MHz antenna were used to investigate the magnetic anomalies labeled A and B, and F thru J on figure 1, a colored magnetic contour map of the data contoured at 250 nT. The blue-colored areas, labeled SM in the figure, are generally caused by tall, metal surface objects including the shipping containers, equipment, trucks and office trailers. Areas of interest generally have red-colored contours.

The actual identity of the objects producing magnetic anomalies cannot be determined from surface data alone, however, the shapes of some objects can be estimated based on the response of the hand-held instruments and the characteristics of the radar reflections seen in the radar profiles.

No recognizable radar reflections were seen over anomaly A. Two round metal plates were seen in the vicinity of anomaly B. One plate appeared to cover a tie-down. This

surface of this area was broken concrete and may be part of a former building foundation. The second plate could not be removed but is probably another tie-down.

Anomalies C, D and E are probably caused by surface objects including a parked trailer truck, a heavy steel plate and equipment. Anomaly F may be caused by a small reinforced concrete pad.

The anomalies in the eastern part of the Site are caused by underground objects. A metal pipe was detected near anomaly G. The pipe extended toward the east and is probably producing anomaly H. A 20-foot deep monitoring well located near anomaly G appeared to contain “free-product”.

Anomaly I and anomaly J appeared to be caused by a second pipe. While investigating anomaly J, a disturbed zone was seen in the radar data. The zone was detected by the Tracer metal detector but not by the Schonstedt magnetometer. The Tracer can detect electrically conductive metal (iron, aluminum, brass, copper, etc.); whereas the Schonstedt only detects ferrous metal. The area is within the low anomaly caused by the row of containers 20 feet to the west. We interpret the disturbed zone to contain “miscellaneous metallic debris” – no recognizable radar reflections were seen in numerous profiles made across the area. The magnetic high just to the south appeared to be related to the second pipe.

No additional USTs were detected within the survey area; however, a tank located near the large surface objects could be missed.

Jeff Mann and Nikos Tzetos of Pacific Geophysics conducted the survey for Mr. Fasih Khan of the Redmond office of GeoEngineers on July 2, 2013. This report was written by Jeff Mann, reviewed by Nikos Tzetos and emailed to Mr. Kahn on July 11, 2013.

Additional information regarding geophysical surveys is included as an Appendix at the end of this report.

Limitations

The conclusions presented in this report were based upon widely-accepted geophysical principles, methods and equipment. This survey was conducted with limited knowledge of the site, the site history and the subsurface conditions.

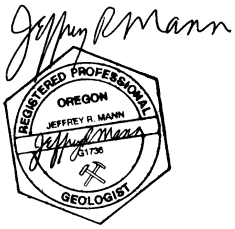
The goal of near-surface geophysics is to provide a rapid means of characterizing the subsurface using non-intrusive methods. Conclusions based upon these methods are generally reliable; however, due to the inherent ambiguity of the methods, no single interpretation of the data can be made. As an example, rocks and roots produce radar reflections that may appear the same as pipes and tanks.

Under reasonable site conditions, geophysical surveys are good at detecting changes in the subsurface caused by manmade objects or changes in subsurface conditions, but they are poor at identifying those objects or subsurface conditions.

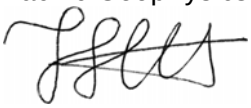
Objects of interest are not always detectable due to surface and subsurface conditions. The deeper an object is buried, the more difficult it is to detect, and the less accurately it can be located.

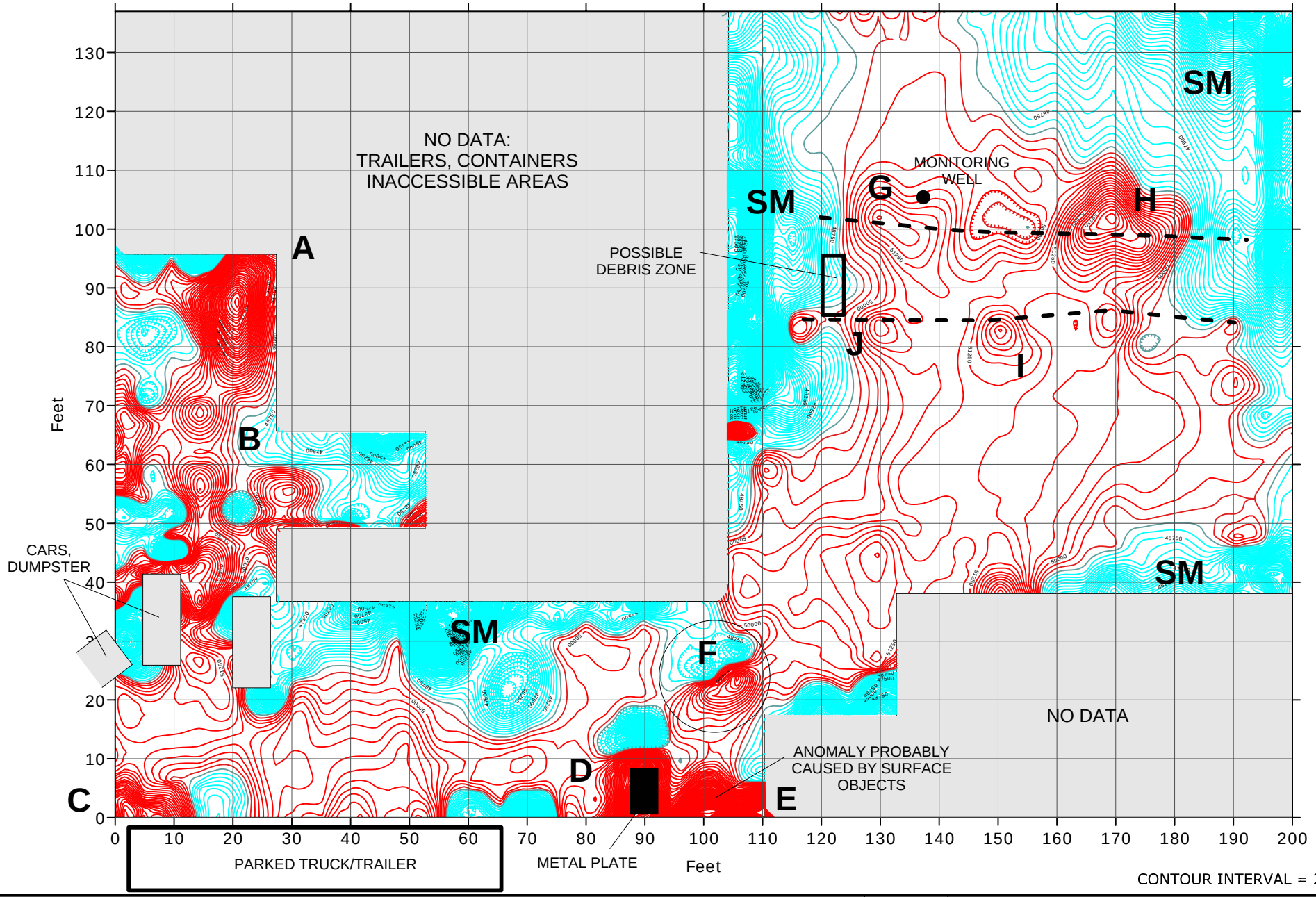
The only way to see an object is to physically expose it.

Jeff Mann July 9, 2013
Pacific Geophysics



Nikos Tzetos July 9, 2013
Pacific Geophysics





CONTOUR INTERVAL = 250 NT

PACIFIC GEOPHYSICS
Applied Geophysics

FIGURE	Magnetic Contour Map - Site Dock 2	
1	PROJECT 130306	7100 1st Avenue SE Seattle, Washington
	Drawn by: JM	Prepared for: GeoEngineers
		Date of Survey: July 2, 2013

Appendix A. Geophysical Survey Methods

Magnetometer Surveys

Small disturbances in the Earth's local magnetic field are called "magnetic anomalies". These may be caused by naturally occurring features such as metallic mineral ore bodies, or from manmade features such as metal buildings, vehicles, fences, and underground storage tanks. The magnetometer only detects changes produced by ***ferrous*** objects. Aluminum and brass are non-ferrous metals and cannot be detected using a magnetometer.

A magnetometer is an electronic instrument designed to detect small changes in the Earth's local magnetic field. Over the years different technologies have been used in magnetometers. The Geometrics G-858 Portable Cesium Magnetometer used to collect magnetic data for Pacific Geophysics uses one of the most recent methods to detect magnetic anomalies. A detailed discussion describing the method this unit uses is available at Geometrics.com.

This magnetometer enables the operator to collect data rapidly and continuously rather than the older instruments that collected data at discreet points only. The G-858 is carried by hand across the site. The sensor is carried at waist level. Typically individual data points collected at normal walking speed are about 6" apart along survey lines usually 5 feet apart, depending on the dimensions of the target objects.

It is critical to know the exact location of each data point so that if an anomaly is detected it can be accurately plotted on a magnetic contour map. At most small sites, data are collected along straight, parallel survey lines set up on the site before the data collection stage begins. For very large, complex sites, the G-858 can be connected to a Global Positioning System (GPS) antenna which allows the operator to collect accurately-located data without establishing a survey grid. With GPS, data are collected and positioned wherever the operator walks. A limitation using GPS is that the GPS antenna must have line of sight with the GPS satellites. Data can be mislocated if the GPS antenna is under trees or near tall buildings.

Data are stored in the unit's memory for later downloading and processing. A magnetic contour map of the data is plotted in the field. Geographical features are plotted on the map. Magnetic anomalies appearing to be caused by objects of interest are then investigated on the site using several small hand-held metal detectors. If an object appears to be a possible object of interest, it may be investigated with GPR.

Magnetic contour maps may be printed in color in order to highlight anomalies caused by ferrous objects located under the magnetic sensor. Usually, ferrous objects situated below the sensor produce magnetic "highs" and anomalies located above the sensor produce magnetic "lows". Magnetic highs are of interest to the operator since most objects of interest are located underground.

Depending on the orientation, shape and mass of a metallic object, a high/low pair of magnetic anomalies may be present. In the northern hemisphere the magnetic low is located north of the object and the magnetic high toward the south. The object producing the anomaly is located part way between the high and the low anomalies.

Magnetometer surveys have limitations. Magnetometers only detect objects made of ferrous (iron-containing) metal. Large ferrous objects (buildings, cars, fences, etc.) within several feet of the magnetometer create interference that may hide the anomaly produced by a nearby object of interest.

Ground Penetrating Radar

A Geophysical Survey Systems, Inc. (GSSI) SIR-2000 GPR system coupled to a 270-, 400-, or 900-MHz GSSI antenna is used to obtain the radar data for our surveys.

GPR antennas both transmit and receive electromagnetic energy. EM energy is transmitted into the material the antenna passes over. A portion of that energy is reflected back to the antenna and amplified. Reflections are displayed in real-time in a continuous cross section. Reflections are produced where there is a sufficient electrical contrast between two materials. Changes in the electrical properties (namely the dielectric constant) that produce radar reflections include the moisture content, porosity, mineralogy, and texture of the material. Metallic objects of interest exhibit a strong electrical contrast with the surrounding material and thus produce relatively strong reflections. Non-metallic objects of interest (septic tanks, cesspools, dry wells, PVC and clay tile pipes) are not always good reflectors.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. In concrete investigations reflections produced by metal rebar look exactly like those from electrical conduit or post-tension cables. Objects with too small an electrical contrast may produce no reflections at all and may be missed.

In addition to interpreting ambiguous data, radar has several limitations that cannot be controlled by the operator. The radar signal is severely attenuated by electrically conductive material, including wet, clay-rich soil and reinforced concrete. The quality of the data is affected by the surface conditions over which the antenna is pulled. Ideally the antenna should rest firmly on a smooth surface. Rough terrain and tall grass reduce the quality of radar data.

It is the job of an experienced interpreter to examine the GPR profiles and deduce if reflections are from objects of interest. A GPR interpreter cannot see underground, but can only interpret reflections based on experience.

The only way to truly identify an object is to excavate.

Hand-held Metal detectors

Two small, non recording metal detectors are used to locate suspect magnetic anomalies detected using the G-858 Magnetometer in order to determine the likely cause of the anomaly. First, the magnetic contour map and a Schonstedt Magnetic Gradiometer are used to locate the center of the magnetic anomalies.

Once the anomaly is located an Aqua-Tronics Tracer is used to determine if the object producing the anomaly is a possible object of interest. Most anomalies are at least in part produced by features observed on the ground surface.

Schonstedt Magnetic Gradiometer: This magnetometer has two magnetic sensors separated vertically by 10”. The magnetic field surrounding a ferrous object is strongest near the object and decreases rapidly as the distance increases. If the magnitude measured by the sensor located in the tip of the Schonstedt is very high, and the magnetic field measured by the sensor located farther up the shaft of the Schonstedt is low, there is a large vertical magnetic gradient and the instrument responds with a loud whistle indicating the object is near the surface. If there is a small difference in the magnitudes measured by the two sensors, the object is deeper. The instrument responds with a softer tone. A discussion of this instrument is available at Schonstedt.com.

Aqua-Tronics A-6 Tracer: The Aqua-Tronics A-6 Tracer uses a different method of detecting metallic objects. This instrument measures the electrical conductivity of a metal object. It is capable of detecting any electrically conductive metal, including non-ferrous aluminum and brass. The Tracer is capable of detecting three-dimensional objects as well as pipes.

The Tracer consists of a transmitter coil and a receiver coil. In the absence of any electrically conductive material in the vicinity of the Tracer, the electromagnetic field around each coil is balanced.

Basically the electromagnetic field produced by the transmitter induces an electric current into the area surrounding the instrument. Nearby conductive objects distort the EM field. The balance between the two coils is disturbed and the instrument produces an audible tone and meter indication.

GeoEngineers